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DESIRABLE CITIES

Qualitative and interdisciplinary research to equip city stakeholders with tools to identify, communicate, and satisfy their expectations for desirable urban experience

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UNIVERSITÉ DE STRASBOURG

DESIRABLE CITIES' THESIS

Qualitative and interdisciplinary research to equip city stakeholders with tools to identify, communicate, and satisfy their expectations for desirable urban experiences

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ABSTRACT IN FRENCH

VILLES DÉSIRABLES: RÉSUMÉ

Historiquement, les personnes impliquées dans le développement des villes sont devenues remarquablement savantes et spécialisées dans les qualités fonctionnelles et formelles des villes, tirant parti de systèmes technologiques avancés et d'infrastructures complexes pour maximiser la croissance économique et l'efficacité. Cependant, les préoccupations écologiques croissantes, comme le changement climatique, associées à la négligence du bien-être et à l'insatisfaction vécue par divers groupes sociaux dans les villes, indiquent que de nouveaux paradigmes de développement urbain sont urgemment nécessaires. *Villes Désirables* propose le «*Pragmaticisme*» comme un paradigme de recherche urbaine qui articule : 1) des adaptations urbaines de la théorie sémiotique de Peirce, y compris la perception environnementale des gens (*symbolisme*), leurs interprétations consécutives (*imageries*) et les réponses psychologiques qui en découlent (*émotions, actions et réflexions*) ; 2) des adaptations urbaines des catégories environnementales de Magnaghi 2011 (*naturelles, culturelles et construites*) ; 3) des adaptations urbaines des théories de la perception de Maturana 1992, Silva 2017 et Debord 2005 (*dérive urbaine, imaginaires et spectacles*) ; 4) des adaptations urbaines des théories du désir de Lacan et Girard (*aspirations mimétiques*) ; 5) des adaptations urbaines du modèle de communication de Jakobson (*créateurs de ville*, *environnement*, *codes*, *expérience urbaine désirable et utilisateurs de la ville*) ; et 6) des adaptations urbaines du «*Business Model Canvas*» (BMC, qu'on pourrait traduire par «*modèle économique urbain*») à la ville (attentes des acteurs de la ville, expériences urbaines désirables, communication des *créateurs de villes*, retours des *utilisateurs de la ville*, ressources urbaines disponibles, outils et processus urbains, partenariats de développement urbain, coût du développement urbain et bénéfices holistiques urbains). La recherche se demande : si des outils visuels didactiques peuvent aider les *créateurs de villes* (décideurs politiques, urbanistes, promoteurs immobiliers, architectes, designers, ingénieurs et constructeurs) et les *utilisateurs de la ville* (résidents, voyageurs et visiteurs locaux et étrangers) à identifier, communiquer et satisfaire de manière *holistique* leurs attentes en matière d'expériences urbaines souhaitables qui devraient inclure la stabilité écologique de la Terre et le bien-être social. Un programme empirique de quatre ans, testé à Shanghai, a déployé ces outils par le biais de protocoles de marche et de discussion. Par rapport aux entretiens standard, ces outils (caméras, cartes et canevas) et protocoles (marche et discussion) ont considérablement amélioré la richesse

thématique et la compréhension mutuelle entre les groupes de parties prenantes, et leurs idées ont guidé la conception de l'application participative *Koinos*. *Villes Désirables* fournit : A) un cadre interdisciplinaire validé; B) des méthodes testées sur le terrain pour révéler de ce que les villes désirables dénomment « *Imaginaires phénoménologiques du désir de ville* » (en anglais: Cities' PIDs) ; et C) une voie numérique évolutive vers des applications quantitatives des études urbaines et des projets de développement urbain du futur, axées sur l'équilibre entre les environnements naturel, culturel et construit, en vue de créer des expériences urbaines désirables, ou autrement dit des villes désirables.

Remarques sur la traduction :

Pragmaticisme : C'est un néologisme pour traduire le concept de « Pragmaticism » développé par Peirce. Ce choix reflète la volonté de Peirce 1933 de distinguer clairement sa proposition philosophique du « Pragmatisme ».

Construit / Construites : Dans le cadre de la triade anglaise « *natural, cultural and constructural* », le terme « constructural » a été traduit par « construit ». Cependant, le sens original se situe à l'intersection de construit et de structure, car il représente également les concepts et structures créés par l'homme.

Utilisateurs : Pour la comparaison anglaise « *city makers and city users* », le terme «users» a été traduit par « utilisateurs » plutôt que par « usagers ». Cette option a été retenue afin d'assurer une harmonie phonétique et visuelle avec le terme « créateurs ».

Glossaire :

Le projet *Villes Désirables* a nécessité la création de nouveaux termes pour définir les outils et protocoles développés dans le cadre de cette recherche :

Ca(p)mera : Terme composé de « Cap » (casquette) et « Camera ». Désigne la caméra cachée montée sur une casquette pour enregistrer la vision des participants (*P91*, *P93*) au cours des protocoles empiriques de promenade lors de l'expérimention finale.

FloatingvCamera : Terme composé de « Floating » (flottant) et « Camera », articulé avec le symbole « v » pointant vers le bas. Désigne la caméra cachée montée sur une lampe pour enregistrer les entretiens des participants (*P91*, *P93*) et leur interaction avec les outils didactiques au cours des protocoles empiriques de discussion lors de l'expérimention finale.

Following>Camera : Terme composé de « Following » (suivi) et « Camera », articulé avec le symbole « > » (comme un suivi). Désigne la caméra cachée montée sur les vêtements d'un membre de l'équipe pour enregistrer une vue panoramique de l'interaction des participants (*P91*, *P93*) avec l'environnement au cours des protocoles empiriques de

promenade lors de l'expérimention finale.

Outils basés sur le questionnaire (néologismes):

Emotion-naire Cards : Évolution du « Graphic-naire ». Questionnaire utilisant des cartes illustrées pour interroger les participants sur leurs attentes « émotionnelles » (*P91*, *P93*) en matière d'expériences urbaines désirables. Utilisé lors de l'expérimentation finale.

Graphic-naire : Questionnaire utilisant des cartes comprenant des illustrations graphiques pour interroger les participants sur leurs attentes (*P47-P90*) en matière d'expériences urbaines désirables. Utilisé lors de l'expérimentation préliminaire.

Holistic-Questionnaire : Questionnaire structuré pour s'aligner sur le cadre théorique « Holistique » du projet *Villes Désirables*, utilisé pour interroger les participants (*P91-P94*). Utilisé lors de l'expérimentation finale.

Photo-naire : Questionnaire utilisant des cartes comprenant des photos pour interroger les participants sur leurs attentes (*P47-P54*) en matière d'expériences urbaines désirables. Utilisé lors de l'expérimentation préliminaire.

Picture-naire : Questionnaire numérique utilisé (*P31-P46*) à l'aide d'une tablette et d'un stylet par les participants pour prendre, marquer et décrire les « images » sélectionées. Utilisé lors de l'expérimentation préliminaire.

Question-naire : Format de questionnaire simple taille A4 comprenant deux questions pour recueillir l'opinion des participants (*P01-P30*) sur les terrains de recherche. Utilisé lors de l'expérimentation préliminaire.

Terminologie des protocoles (promenades et discussions):

Chatty-Walk : Protocole de « promenade » (walk) décontractée (*chatty*) conversationnelle avec des *utilisateurs de la ville*, mis en œuvre pour recueillir leurs expériences (*93*, *94*) . Utilisé durant l'expérimentation finale.

Insightful Talk : Protocole de « discussion » (*talk*) professionnelle (*insightful*) perspicace avec des *créateurs de villes*, mis en œuvre pour recueillir leurs expériences (*91*, *92*). Utilisé durant l'expérimentation finale.

Playful-Talk : Protocole de « discussion » (*talk*) ludique (*playful*) enjoué avec des *utilisateurs de la ville*, mis en œuvre pour recueillir leurs expériences (*93*, *94*). Utilisé durant l'expérimentation finale.

Stately-Walk : Protocole de « promenade» (*walk*) formelle (*stately*) avec des *créateurs de villes*, mis en œuvre pour recueillir leurs expériences (*91*, *92*). Utilisé durant l'expérimentation finale.

Termes Additionnels:

Cities' PIDs : Abréviation de « Cities' Phenomenological Images of Desire » (Images phénoménologiques du désir de ville). Désigne le processus d'imagination qui révèle ce que les individus souhaitent sincèrement expérimenter en milieu urbain. *Holistique :* Ce terme est employé dans le sens ontologique du *Pragmaticisme*, en appliquant les catégories de Peirce de « Priméité, Secondéité et Tiercéité » pour décrire une structure hiérarchique et interdépendante, dans laquelle le tout est plus grand que la somme de ses parties. En ce qui concerne l'environnement, il y a une dépendance nécessaire : il ne peut y avoir d'environnement construit (*Tiercéité*) sans un environnement *culturel* (*Secondéité*), ni d'environnement *culturel* sans un environnement naturel (*Priméité*). Ces dimensions ne peuvent donc pas être étudiées de manière adéquate isolément, ce qui nécessite une approche *interdisciplinaire* pour saisir le contexte et les nuances de leur profonde interconnexion. *Koinos :* Du grec pour « commun » ou « partage ». Nom donné à l'application mobile conçue pour étendre les résultats qualitatifs de *Villes Désirables* à l'échelle d'une ville entière. *Shanghai-map :* Une enquête numérique et physique des espaces publics extérieurs les plus populaires de Shanghai, réalisée pendant l'expérimentation préliminaire. *Structure-naire Canvas :* Un diagramme pliable utilisé pour aider les participants (*P91*, *P93*) à structurer visuellement leurs idées et à répondre à l'*Holistic-Questionnaire*. *Terms-naire Tray :* Un ensemble de mot-clés présentés sur un « plateau » pour permettre aux participants (*P91*, *P93*) de sélectionner rapidement les termes correspondant à leurs pensées pour l'*Holistic-Questionnaire*.

Mots clés :

Villes, désir, perception, désir spatial, désir urbain, perception spatiale, perception urbaine, communication urbaine, émotions spatiales, psychographie, villes désirables, villes agréables, bien-être urbain, anthropologie urbaine, image de marque de la ville, économie urbaine, canevas de modèle économique urbain.

Auteurs clés : Alberto Magnaghi, Anne Godfrey, Armando Silva Tellez, Karl Bühler, Carl Sagan, Charles Sanders Peirce, David Christian, Donald Preziosi, Gillian Rose, Guy Debord, Heinz von Foerster, Humberto Maturana, Jacques Lacan, Jane Jacobs, John Dewey, Juhani Pallasmaa, Kevin Lynch, Maurice Merleau-Ponty, Michel de Certeau, René Girard, Roman Jakobson, Sarah Pink, Sharon Zukin, Umberto Eco.

ABSTRACT

Historically, people involved in the development of cities have become remarkably knowledgeable and specialised in cities' functional and formal qualities, leveraging advanced technological systems and complex infrastructure to maximise economic growth and efficiency. However, mounting ecological concerns, like climate change, coupled with the neglected well-being and dissatisfaction experienced by various social groups in cities, indicate that new paradigms of city development are urgently needed. Desirable Cities proposes Pragmaticism as an urban research paradigm that articulates: 1) urban adaptations of Peirce's semiotic theory, including people's environmental perception (symbols), their interpretations (imageries) and the consequential psychological responses (emotions, actions and reflections); 2) urban applications of Magnaghi's environmental categories (natural, cultural, and constructural); 3) urban adaptations of Maturana's, Silva's and Debord's theories of perceptions (urban drifting, imaginaries, and spectacles); 4) urban adaptations of Lacan's and Girard's theories of desire (mimetic aspirations); 5) urban adaptations of Jakobson's model of communications (articulating city makers, environment, codes, desirable urban experience and *city users*); and 6) urban adaptations of the Business Model Canvas (articulating city stakeholders' expectations, *city makers*' communication, *city users*' feedback, available urban resources, urban tools and processes, urban development's partnerships, urban development cost, and urban holistic benefits). Desirable Cities asks whether didactical visual tools can help *city makers* (policymakers, urban planners, real estate developers, designers, and builders) and *city users* (residents, commuters, and local and foreign visitors) to identify, communicate and holistically satisfy their expectations for desirable urban experiences, which should include Earth's ecological stability, social well-being, and thriving urban spaces. A four-year empirical programme tested these tools in more than thirty (30) popular locations in Shanghai, involving more than ninety (90) participants, through walks-and-talks applying ethnographic protocols. Compared with standard interviews, the tools significantly improved thematic richness and mutual understanding between different city stakeholder groups. These insights led to the design of the participatory app: Koinos. Desirable Cities delivers: A) a validated interdisciplinary theoretical framework; B) field-tested methods and tools for revealing Cities' Phenomenological Imageries of Desire (PIDs); and C) a scalable digital pathway toward quantitative applications of future urban studies and city development projects that focuses on balancing the natural, cultural and constructural environments, aiming for desirable urban experiences, in short: desirable cities.

GLOSSARY

***Desirable cities* created new words to address proposed tools and protocols. From its associations with *cameras*, *Desirable Cities* made:**

Ca(p)mera: A "*camera*" mounted on a "*cap*" to discreetly record participants' gaze (*P91* and *P93*) during the empirical walk protocols of the final experimentation.

FloatingvCamera: "*Floating*" and "*Camera*," articulated with the symbol "*v*" pointing down, refer to a discrete camera mounted on a pendant lamp to record participant interviews (P91 and P93) and their interaction with didactic tools during the empirical talk protocols of the final experimentation.

Following>Camera: "*Following*" and "*camera*" articulated with the symbol ">" pointing sideways, as if "*following*" the words, refers to a discrete camera mounted on a research team member's shirt to record a panoramic view of participant interaction (*P91*, *P93*) with the environment during empirical walk protocols of the final experimentation.

From its association with a *questionnaire*, *Desirable Cities* made:

Emotion-naire Cards: An improved "*Graphic-naire*" using "*cards*" with illustrations to elicit participants' "*emotional*" expectations (*P91*, *P93*) of desirable urban experiences during the final experimentation.

Graphic-naire: A questionnaire using cards with "*graphic*" illustrations to elicit participants' expectations (*P47-P90*) of desirable urban experiences during preliminary experimentation.

Holistic-Questionnaire: A questionnaire structured to align with the *Desirable Cities*' "*holistic*" theoretical framework for eliciting the participants (*P91-P94*), during the final experimentation.

Photo-naire: A questionnaire using cards with "*photos*" to elicit participants' expectations (*P47-P54*) of desirable urban experiences during the preliminary experimentation.

Picture-naire: A digital questionnaire where participants (*P31-P46*) used a tablet and stylus to take, mark, and explain "pictures" of their choices during the preliminary experimentation.

Question-naire: A simple questionnaire format using two questions to elicit participants' opinions (*P01-P30*) on selected research fields during the preliminary experimentation.

From its association with walks and talks protocols, Desirable Cities made:

Chatty-Walk: "Chatty" refers to a casual "*walk*" with *city users*, a protocol to elicit participants' experiences (*93*, *94*) during the final experimentation.

Insightful Talk: "Insightful" refers to a professional "*talk*" with *city makers*, a protocol to elicit participants' experiences (*91*, *92*) during the final experimentation.

Playful-Talk: "Playful" refers to a casual "*talk*" with *city users*, a protocol to elicit participants' experience (*93*, *94*) during the final experimentation.
Stately-Walk: "Stately" refers to a professional "*walk"* with *city makers*, a protocol to elicit participants' experience (*91*, *92*) during the final experimentation.

Additional words made by *Desirable Cities:*

Cities' PIDs: Abbreviation for "*Cities' Phenomenological Images of Desire*", referring to the imaginative process that reveals what individuals wish to experience in an urban setting.
Holistic: It is used in the ontological sense of *Pragmaticism*, applying "*Firstness*, *Secondness*, and *Thirdness*" categories to describe an interdependent, hierarchical structure that as a whole is greater than the sum of its parts. Concerning the environment, this asserts a necessary dependency: there cannot be a *built* environment (*Thirdness*) without a *cultural* (*Secondness*), nor *cultural* without the *natural* environment (*Firstness*), thus, these cannot be adequately studied in isolation, compelling the use of an *interdisciplinary* approach to capture the context and nuances of their profound interconnectedness.
Koinos: From the Greek for "*common*" or "*share*". Refers to a mobile application designed to scale up the *Desirable Cities*' qualitative findings for an entire city engagement.
Shanghai-map: A digital and physical survey of Shanghai's most popular open-air public spaces during the preliminary experimentation.
Structure-naire Canvas: A foldable "*diagram-canvas*" used to help participants (*P91*, *P93*) visually "*structure*" their ideas and answer the *Holistic-Questionnaire*.
Terms-naire Tray: A set of individual "*terms*" presented on a "*tray*" for participants (*P91*, *P93*) to select and quickly express their thoughts and answer the *Holistic-Questionnaire*.

KEYWORDS

Key concepts: Cities, desire, perception, space desire, urban desire, space perception, urban perception, urban communication, spatial emotions, psychographics, desirable cities, pleasurable cities, urban well-being, urban anthropology, city branding, urban economics, urban business model canvas.

Key authors: Alberto Magnaghi, Anne Godfrey, Armando Silva Téllez, Carls Bühler, Carl Sagan, Charles Sanders Peirce, David Christian, Donald Preziosi, Gillian Rose, Guy Debord, Heinz van Foerster, Humberto Maturana, Jacques Lacan, Jane Jacobs, John Dewey, Juhani Pallasmaa, Kevin Lynch, Maurice Merleau-Ponty, Michel de Certeau, René Girard, Roman Jakobson, Sarah Pink, Sharon Zukin, Umberto Eco.

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FRENCH SUMMARY OF PART ONE

VILLES DÉSIRABLES : INTRODUCTION

1. INTRODUCTION A (LA THÈSE SUR LES) *VILLES DÉSIRABLES*

Aperçu de la recherche

Les villes abritent actuellement plus de la moitié de la population mondiale, et les projections indiquent que les deux tiers de l'humanité résideront en milieu urbain d'ici 2050. Ce changement démographique nécessite une étude approfondie du développement urbain pour garantir un progrès durable et améliorer le bien-être humain. Les villes existent au sein des écosystèmes délicats de la Terre et dépendent fondamentalement de leur équilibre, ce qui rend cruciale la relation entre les environnements urbains et les systèmes naturels.

Selon l'approche territorialiste de Magnaghi (2011), cette interdépendance démontre l'importance d'étudier les villes à travers une méthodologie *holistique* intégrant trois dimensions environnementales : l'environnement *naturel*, qui englobe les écosystèmes équilibrés de la Terre ; l'environnement *culturel*, qui inclut les dynamiques sociales et le bien-être humain émergeant d'interactions environnementales complexes ; et l'environnement *construit*, comprenant les espaces matériels des villes.

La relation entre les individus et les environnements urbains requiert une compréhension de la perception environnementale à travers des processus d'association impliquant des similarités, des indicateurs et du symbolisme, comme le souligne le cadre sémiotique de Peirce. Ces perceptions mènent à des interprétations qui produisent des *imageries*, les propositions et les arguments des individus sur les expériences perçues, générant par la suite des réponses psychologiques qui se manifestent en *émotions*, *actions* et *réflexions*. Ces perceptions, interprétations et réponses environnementales animent les comportements humains qui façonnent en retour l'environnement, en accord avec les concepts de « *couplage structurel* » et de « *comportement culturel* » de Maturana (1992).

Villes Désirables aborde ces composantes environnementales et les processus

perceptifs associés, en mettant l'accent sur le *symbolisme* dans la perception et les *imageries* dans l'interprétation, ce qui mène à des réponses psychologiques complètes. Cette approche permet une compréhension *holistique* des attentes des *acteurs de la ville* concernant les *expériences urbaines désirables*, où la durabilité écologique et le bien-être social ne sont pas compromis.

Comprendre les attentes en matière d'*expériences urbaines désirables* est fondamental, car le désir oriente le positionnement psychologique des individus vis-à-vis de leurs perceptions, interprétations et réponses environnementales. Le cadre théorique de Lacan (2006, 2015, 2018) explique la relation entre « *le Réel* » (tout ce qui existe historiquement), « *le symbolique* » (les prédéterminations culturelles fournies par la société) et « *l'imaginaire* » (le positionnement idéal individuel face aux expériences). Ces éléments s'articulent comme un nœud borroméen avec l'« *objet petit a* » au centre, représentant la cause du désir.

L'« *objet* », le « *representamen* » et l'« *interprétant* » de Peirce (1933,1960) constituent un modèle complet où l'environnement sert « d'objet », les qualités perçues par les individus de « representamen », et les associations mentales des individus « d'interprétant ». L'analyse de Peirce forme un paradigme qui jette un pont entre la science et la métaphysique, qu'il nomme « *pragmaticisme* ». Adapter le *pragmaticisme* de Peirce comme paradigme de recherche urbaine permet de développer une approche *holistique* correspondant aux objectifs de *Villes Désirables*.

Cette adaptation urbaine facilite l'étude des relations entre les *acteurs de la ville* et l'environnement à travers les perceptions des individus via le *symbolisme* ; les interprétations via les *imageries* ; et les réponses psychologiques via les *émotions*, *actions* et *réflexions* au sein des environnements *naturel*, *culturel* et *construit* des villes. La cohérence de Peirce dans l'articulation de l'ontologie, de l'épistémologie et de la méthodologie à travers la « priméité », la « secondéité » et la « tiercéité » suit une règle structurelle essentielle où la *tiercéité* ne peut exister sans la *secondéité*, et celles-ci sans la *priméité*. Cette règle est appliquée de manière cohérente: l'environnement *construit* (*tiercéité*) ne peut exister sans l'environnement *culturel* (*secondéité*), et sans la conservation de l'environnement *naturel* (*priméité*).

Méthodologiquement, le *pragmaticisme* propose de comprendre la relation

des individus avec l'environnement par l'analyse sémiotique de l'expérience phénoménologique. *Villes Désirables* se concentre sur les catégories de signes VIII, IX et X de Peirce, permettant l'étude des qualités de perception prévisibles (*légisigne*), des relations symboliques des perceptions avec l'environnement (*symbole*), et des interprétations possibles incluant les imageries, les positionnements et les arguments.

Ce paradigme permet d'identifier et de communiquer les attentes des individus en matière d'*expériences urbaines désirables* à travers les *Imaginaires phénoménologiques du désir de ville* (*Cities' PIDs*), visant à satisfaire de manière *holistique* les attentes désirables de tous les *acteurs de la ville*.

Villes Désirables catégorise les *acteurs de la ville* en fonction de leur niveau d'implication dans le développement des espaces urbains, distinguant les *créateurs de villes* (décideurs politiques, urbanistes, promoteurs immobiliers, architectes, designers, ingénieurs, constructeurs) des *utilisateurs de la ville* (résidents, navetteurs, visiteurs locaux et étrangers). Cette relation a nécessité un cadre d'analyse des interactions à travers des modèles de communication adaptés, menant au développement d'outils visuels didactiques testés empiriquement par des protocoles inspirés de l'ethnographie urbaine de Lynch (2005) et des méthodologies visuelles critiques de Rose (2016).

Ces théories unifiées ont été fondées sur des études pilotes s'étalant sur vingt-cinq ans d'expériences professionnelles, incluant des expérimentations empiriques approfondies dans les trente espaces publics de plein air les plus populaires de Shanghai, menées sur environ trente mois au début de *Villes Désirables* et impliquant quatre-vingt-dix participants. De ces études préliminaires, la principale conclusion de *Villes Désirables* a été la nécessité d'articuler un cadre théorique *interdisciplinaire* actualisé, axé sur les attentes des *acteurs de la ville* envers les *expériences urbaines désirables*, et de développer des outils visuels didactiques aidant tous les acteurs à comprendre et à mettre en œuvre cette connaissance complémentaire.

Villes Désirables conclut en développant des outils pratiques qui mettent en œuvre les résultats et les contributions de la recherche dans des conditions urbaines réelles, en tenant compte de la conception didactique requise pour l'accessibilité aux différents groupes d'acteurs, ce qui a abouti à quatre objectifs de recherche : (1er) articuler des théories complémentaires dans l'analyse et la pratique du développement urbain ;

(2ème) développer des méthodes et des outils facilitant l'application de ces théories dans les études urbaines ; (3ème) tester la performance des méthodes et outils proposés ; et (4ème) évaluer et suggérer des pistes de développement futur, y compris une proposition d'application mobile (*Koinos*) appliquant les résultats de la recherche qualitative à l'échelle de la ville. Ces initiatives visent à promouvoir des espaces urbains désirables, répondant de manière holistique aux attentes des acteurs en matière d'*expériences urbaines désirables*, en équilibre avec les écosystèmes de la Terre, et engendrant des expériences urbaines de bien- être agréables. En bref : promouvoir des *villes désirables.*

Problématique de recherche

La problématique que *Villes Désirables* aborde est l'orientation matérialiste du développement urbain traditionnel. Malgré des avancées significatives dans l'urbanisme et le développement des villes au cours de l'histoire, l'équilibre écologique des écosystèmes de la Terre s'est dégradé, et tous les segments des *acteurs de la ville* ne bénéficient pas de conditions de vie propices au bien-être. Cette problématique de recherche découle de la reconnaissance que les espaces urbains sont façonnés par des objectifs (des « *agendas* » au sens anglais) concurrents entre différents acteurs, y compris les *créateurs de villes* (décideurs politiques, urbanistes, promoteurs immobiliers, architectes, designers, ingénieurs et constructeurs) et les *utilisateurs de la ville* (résidents, navetteurs, et visiteurs locaux et étrangers), ainsi que de l'encouragement à mettre en œuvre un savoir-faire interdisciplinaire actualisé fondé sur le fait que la relation entre les individus et l'environnement a une dimension émotionnelle, physique et intellectuelle. En d'autres termes, les intérêts divergents des différents groupes d'*acteurs de la ville* et le déficit de connaissances - celles-ci étant confinées dans la niche d'autres disciplines - conduisent souvent à des résultats urbains qui privilégient la forme physique, la fonction et la rentabilité économique au détriment de la durabilité écologique de la Terre et du bien-être des populations.

Questions de recherche

Les méthodes sémiotiques et les outils visuels didactiques peuvent-ils aider les *créateurs de villes* et les *utilisateurs de la ville* à identifier, communiquer et satisfaire de manière *holistique* leurs attentes en matière d'*expériences urbaines désirables* ?

Objectifs de recherche

L'objectif principal de *Villes Désirables* est de développer et de valider un cadre théorique *holistique* et *interdisciplinaire* pour la création d'outils visuels didactiques qui permettent aux *créateurs de villes* et aux *utilisateurs de la ville* d'identifier, de communiquer et de satisfaire mutuellement et de manière *holistique* leurs attentes en matière d'*expériences urbaines désirables*.

Champ de la recherche

Villes Désirables s'appuie sur le *Pragmaticisme* de Peirce (1933, 1960) comme paradigme urbain, articulant un cadre théorique pour comprendre les dimensions émotionnelles, physiques et intellectuelles des attentes des *acteurs de la ville* en matière d'*expériences urbaines désirables*. Ce cadre théorique est validé par un champ empirique qui se concentre sur les espaces urbains, les *créateurs de villes* et les *utilisateurs de la ville* en tant que participants, ancrant ainsi cette étude dans une application concrète et réelle. Le champ est délimité par sa focalisation sur un seul espace urbain et un échantillon limité de participants, permettant une investigation empirique ciblée qui privilégie la profondeur sur la quantité. La conception de l'étude resserre intentionnellement son champ d'application à Xintiandi et à des rôles spécifiques de *créateurs de villes* (se concentrant uniquement sur les architectes) et d'*utilisateurs de la ville* (se concentrant uniquement sur les visiteurs locaux), garantissant que la recherche est gérable et méthodologiquement rigoureuse. En se concentrant sur un contexte urbain et un ensemble de participants particuliers, la recherche peut fournir des aperçus détaillés sur la dynamique des outils de *Villes Désirables* pour susciter la *désirabilité* urbaine, tout en assurant l'application pratique du cadre et de la conception des outils proposés.

Portée de la recherche

La portée de la recherche de *Villes Désirables* réside dans son approche *holistique* des paradigmes d'études urbaines, ses articulations interdisciplinaires d'un cadre théorique actualisé, et ses efforts innovants pour développer des outils visuels didactiques que tous les *acteurs de la ville* pourraient facilement utiliser pour identifier et communiquer leurs attentes en matière d'expériences urbaines en vue de leur satisfaction, car ces

perspectives contribuent au futur développement *holistique* des villes qui assurent la durabilité écologique de la Terre et le bien-être des populations. Alors que l'urbanisation s'accélère à l'échelle mondiale, avec deux tiers de la population mondiale qui devraient vivre en ville d'ici 2050 (Nations Unies, 2019), le besoin d'environnements urbains qui répondent consciencieusement aux besoins et désirs de tous les *acteurs de la ville* sur les plans écologique, culturel, architectural, émotionnel, physique et intellectuel devient de plus en plus critique et primordial.

Structure de la thèse

La thèse de *Villes Désirables* est structurée en neuf parties. La première partie est une introduction à la thèse et à son cadre. Les huit parties suivantes sont organisées comme suit :

La deuxième partie, intitulée *Les fondements de Villes Désirables*, établit le cadre de base pour le positionnement de *Villes Désirables* dans le discours plus large des études urbaines et du développement des villes en décrivant les explorations préliminaires menées depuis le début de *Villes Désirables*.

La troisième partie, intitulée *Cadre théorique de Villes Désirables*, articule la littérature sur le paradigme du *pragmaticisme*, l'environnement *naturel*, *culturel* et *construit*, et son intégration *holistique*.

La quatrième partie, intitulée *Application théorique de Villes Désirables*, montre l'applicabilité du cadre en articulant les théories de la communication pour comprendre les systèmes de communication des *acteurs de la ville*, ainsi que les méthodologies d'ethnographie et l'analyse sémiotique adaptées pour développer les méthodes et outils de *Villes Désirables*.

La cinquième partie, intitulée *Méthodologie de test de Villes Désirables*, expose la méthodologie de recherche employée pour tester empiriquement les outils de *Villes Désirables*. Elle décrit les processus utilisés pour la conception et la mise en œuvre des outils proposés, alignés sur le paradigme de recherche scientifique de *Villes Désirables*.

La sixième partie, intitulée *Résultats des tests des outils de Villes Désirables*,

présente les résultats, l'analyse et les conclusions concernant les outils proposés.

La septième partie, intitulée *Les pistes futures de Villes Désirables*, esquisse des propositions pour les pratiques futures de développement urbain, y compris des recommandations pour les *créateurs de villes* et les *utilisateurs de la ville*, et la promotion d'espaces urbains *désirables* de manière *holistique*. Elle discute également de la future mise à l'échelle des résultats de *Villes Désirables* avec la proposition d'une application mobile nommée *Koinos*.

La huitième partie, intitulée *Conclusion de Villes Désirables*, synthétise les résultats et présente les arguments finaux de la recherche.

La neuvième partie, intitulée *Ressources de Villes Désirables*, répertorie toutes les références et sources qui ont éclairé *Villes Désirables*.

PART ONE.

DESIRABLE CITIES' INTRODUCTION

2. INTRODUCTION TO *DESIRABLE CITIES*' THESIS

2.1. Research overview

Cities are the environments in which more than half of the world's population lives today; moreover, it is predicted that by 2050, two-thirds of the world's population will be living in cities (United Nations 2019). This motivates the study of city developments, which is essential for sustainable development and improving people's well-being.

Cities are built within, and are dependent on, Earth's balanced ecosystems, making the relationship between them crucial for cities' development and, by extension, people's lives. Aligning with Magnaghi's territorialist approach (cities within its geographical conditions), these crucial dependency demonstrates the importance of studying and developing cities from a *holistic* approach that integrates the materiality of cities' spaces (*constructural* environment) with Earth's balanced ecosystems (*natural* environment) and the social dynamics that emerge in these complex environmental interactions, including people's well-being (*cultural* environment) (Magnaghi 2011, 92).

The relationship between people and their cities' environments (whether *natural*, *cultural* or *constructural*) requires an in-depth understanding of (A) people's environmental perception from association processes by similarities or *"icon*", indicators or *"index*" and "*symbol*" (Peirce 1960c, 247–49); (B) their consequential interpretations, which produce people's *imaginaries* or "*rhema*", "*dicisign*" and "*argument*" of what they had perceived (Peirce 1960c, 261–63); as these lead to (C) people's psychological responses in the form of "*emotions*", "*actions*" and "*reflections*" from their perceptions and interpretations (Peirce 2001, 186–95). These environmental perceptions, interpretations, and responses drive the resulting aspirations and behaviours of people, which shape the environment and align with Maturana's "*structural coupling*" and cultural behaviour, essentially explaining the reciprocal influences of species (like people) and their environment (Maturana and Varela 1992, 17–235).

Desirable Cities addresses these components of the environment (*natural*, *cultural* and *constructural*), associated with their processes of perception (emphasising on *symbols* as *cultural* conventions related to recognisable patterns) and interpretations (emphasising on *imageries* because "*rhema*" is an imaginary, "*dicisign*" is an imaginary-based proposition, and "*arguments*" are all in this context individuals' constructions that

belongs to the singularity of each person). These factors influence people's psychological responses (encompassing *emotions*, *actions* and *reflections*) to *holistically* understand the expectations that city stakeholders (organised as *city makers* and *city users*) have for *desirable* urban experiences that prioritize ecological sustainability and social well-being without uncompromise.

Understanding expectations for *desirable* urban experiences is fundamental within this context because *desire* is the driving force behind people's psychological positioning regarding their environmental perceptions, interpretations and responses. In Lacan's terms, this is the relationship between the "*Real*" or everything that exists (even historically), the "*symbolic*" or the *cultural* pre-determinations provided to people by their society, and the "*imaginary*" or people's individual positioning towards their experiences (Lacan 2006, 68–72). For Lacan, the "*Real*", the "*symbolic*", and the "*imaginary*" are articulated like a *Borromean Knot* with "a" at the centre, in which "a" stands for "*little object a*" and represents the "*cause for desire*" (Lacan 2018, 57–58), "a" is the void that people imagine that, by being filled, will bring them a surplus of enjoyment, or in short, people's *desire* (Homer 2005, 87). In other words, "a" is the manifestation of *desire* within the environment as it is seen by the person who is *desiring*. This means that the *desire* for fulfilment articulates the relationship of the "*Real*", the "*symbolic*", and the "*imaginary*", in which the "*imaginary*" is a representation of the "*Real*", or everything that exists, and the "*symbolic*" is the collective *cultural* interpretation of that existence, which in the context of *Desirable Cities* explains why studying urban d*esirability* is significant as it articulates the responses of city stakeholders with the *natural*, *cultural* and *constructural* environment of cities.

These social and individual realities (respectively: "*symbolic*" and "*imaginary*" interpretations of the "*Real*") constantly provide people with new possibilities of experiences based on past positive memories or that they haven't experienced yet (these are the "*void*" or "*a*") and which they want to experience ("*desire*" to experience) to fulfil these social or individual aspirations, in other words "*symbolic*" and "*imaginary*" *desires*, which also aligns with Girard's "*mimetic desire*" (Girard 2000, 283–98). Thus, *Desirable Cities* places people's aspirations for *desirable* urban experiences as direct results of their interpretations interacting with their psychological responses of the environment. As a result, from the interaction of (A) interpretations as *imaginary*-based *imageries* with emotional responses, emerge *expectations of feelings* as a driving force; from the interaction of (B) *imaginary*-based *propositions* with *physical* responses, emerge

expectations of activities as a driving force; and in the interaction of (C) *imaginary*-based *arguments* with *intellectual* responses, there are *expectations of meanings* as a driving force.

Peirce's reflections on people's perceptions, interpretations, and psychological responses to everything that exists provide a structure similar to Lacan's. Peirce's "*object*", "*representamen*", and "*interpretant*" is a comprehensive model that explains how the environment, in its entire existence (including Earth and everything within it, such as ecosystems, people, cities, cultures and languages), which is addressed as "*object*", has qualities perceived by people in a given time, addressed as "*representamen*" or perceptions, and the people's associations of these "*representamens*" and its related "*object*" through their thoughts and understandings, which is addressed as the "*interpretant*" or interpretation (Peirce 1960c, 227–73). Peirce's analysis is articulated in an entire paradigm that bridges science and metaphysics, as well as analytical and continental philosophy. He called this paradigm "*Pragmaticism*" to differentiate it from "*Pragmatism*" (Peirce 1933, 533–38; 1960e, 482). Therefore, using *Pragmaticism* as a research paradigm allows the development of a *holistic* approach that fits *Desirable Cities'* aims.

This urban adaptation of *Pragmaticism* allows to study the relationship between city stakeholders and their environment, via people's perceptions (through symbols), interpretation (through *imageries*), psychological responses (through *emotions*, *actions*, and *reflections*), and aspirations (through *expectations of feelings*, *expectations of activities*, and *expectations of meanings*); within the city's environments (distinguishing its *natural*, *cultural*, and *constructural* components), which are *Desirable Cities'* adaptation of Magnaghi's environmental categorisation ("*natural*", "*anthropic*", and "*built*"), as this aligns with Peirce's epistemological categorisations of the "*first*", "*second*", and "*third correlate*" respectively. *Pragmaticism* also allows the articulation of Maturana's "*structural coupling*" and *cultural* behaviour, as it aligns with Peirce's "*object*", "*representamen*" and "*interpretant*". Girard's "*mimetic desire*" and Lacan's *Borromean Knot:* "*Real*", "*symbolic*", and "*imaginary*", are present within Peirce's epistemology (The "*Real*" in "*object*"; "*symbolic*" in the "*third correlate*" of perceptions: "*representamen-object*"; and "*imaginary*" in "*first correlate*" of interpretations: "*representamen-object-interpretant*"; in which the "*mimesis*" occurs on the *cultural* influence on perceptions and interpretations).

This articulation of a comprehensive and *interdisciplinary* scientific research paradigm

for the *holistic* study of city stakeholders and their relationship with cities' environments, provides the study of (A) the urban interactions of people and their environment from *Pragmaticism*'s ontology, (B) the integration of people's perceptions, interpretations, psychological responses, and aspirations from *Pragmaticism*'s epistemology, and (C) the semiotic analysis of cities' phenomenological *imageries* for understanding people's expectations for *desirable* urban experiences, from *Pragmaticism*'s methodology. The reason for this is Peirce's consistency in articulating ontology, epistemology and methodology through the categories of "*firstness*", "*secondness*", and "*thirdness*", which have an essential structural rule: there cannot be "*secondness*" without "*firstness*", and there cannot be "*thirdness*" without "*secondness*" and therefore "*firstness*" (McNabb 2018, 63–90). Which also proves *Desirable Cities'* positioning, in which a *constructural* environment ("*thirdness*") cannot exist without the *cultural* environment, including people's lives and well-being ("*secondness*"), and without conserving the *natural* environment, which ultimately includes the ecological balance of Earth's ecosystems ("*firstness*"). Therefore, a *holistic* approach is indispensable in any desirable urban scenario, in which the ecological stability of the Earth and the overall social well-being must be harmoniously and *holistically* integrated with thriving urban spaces.

Ontologically, these categories delineate modes of being: "*firstness*" is the realm of pure possibility and quality, an existence that is such as it is in itself without reference to anything further (McNabb 2018, 79–82; Peirce 1960g, 328), it is The Universe in its entire existence and possibilities; "*secondness*" is actuality or brute existence, the here-and-now fact of something that asserts itself through reaction or resistance to another, but not a third (McNabb 2018, 82–85; Peirce 1960g, 328), for example, the interaction between two components of The Universe in a given time, like a star and a planet; and "*thirdness*" is law or mediated order, the general patterns and regularities that connect or govern "*firstness*" and "*secondness*", for example, the rules that organise: systems, cycles and even molecules structure, making them predictable like the Earth's solar system, or human's biological processes and cycles, or the balancing chemical equations that demonstrate the conservation of atoms with elements transformations like water and oxygen (McNabb 2018, 85–90; Peirce 1960g, 328). Collectively, this "*firstness*", "*secondness*", and "*thirdness*" explain the "*Real*".

Epistemologically, it is the semiosis process or the triadic relationship of sign's perceptions, in which "*firstness*" or "*first correlate*" corresponds to the raw quality of perception or feeling, the immediate, unanalysed sensation in experiences; "*secondness*" or "*second correlate*" corresponds to the dyadic interaction between the

perception ("*representamen*") and its "object", the "*hard*" and tangible encounter or shock of otherness that a sign's "*object*" imposes; and "*thirdness*" or "*third correlate*" corresponds to the interpretative habit or rule that mediates and establishes meaning, the mental or *cultural* influence linking perceptions ("*representamen*") of the environment ("*object*") by an interpretation ("*interpretant*"). (Peirce 2008, 249; 1960c, 235–37)

Methodologically, *Pragmaticism* proposes to understand people's relationship with the environment from the interception of the epistemological conditions of perceptions ("*first*", "*second*" and "*third correlate*") with the ontological process of understanding ("*firstness*", "*secondness*" and "*thirdness*"), which results in a semiotic analysis of the phenomenological experience, with "*ten classes of signs*" interpretations (Peirce 1960c, 233–64). Because "*thirdness*" always will include "*firstness*" and "*secondness*", and because there cannot be a social study without considering people's interpretation, *Desirable Cities* only focuses on signs "*VIII*", "*IX*", and "*X*", as they allow to study: (A) the predictable qualities of perceptions itself ("*legisign*", which is the "*first correlate*" in its "*thirdness*" level of understanding); (B) the symbolic or *cultural* relationship of the perceptions with the environment ("*symbol*", which is the "*second correlate*" in its "*thirdness*"); and (C) the possible people's interpretation of these perceptions, which can be either: imageries as "*rhema*" or *imaginary*, "*dicisign*" or *imaginary*-based "*proposition*", and *imaginary*-based "*argument*", which are the "*firstness*", "*secondness*" and "*thirdness*" level of understanding, respectively within the "*third correlate*" (Peirce 1960c, 261–63). In other words, by focusing on the predictable qualities of perception from *cultural* connections to the environment, *Desirable Cities* can study the interpretations or *imaginaries* that city stakeholders have about their urban environment, which leads to their psychological responses.

To explain this adaptation of the paradigm, *Desirable Cities* draws from McNabb analysis of how Peirce addresses people's psychology and the norms of science within his *Pragmaticism*. Regarding people's psychology, feelings are "*firstness*", reactions are "*secondness*", and thoughts are "*thirdness*" (McNabb 2018, 90); while in "the normative of sciences", aesthetics are "firstness", ethics are "*secondness*", and logic is "thirdness" (McNabb 2018, 90; Peirce 2001, 179–207). Because *Desirable Cities* focuses on the city stakeholders' expectations for desirable urban experiences, the identification of the psychological positioning that drives urban behaviour is paramount. Thus, *Desirable Cities* addresses people's psychological responses as *emotions*, *actions*, and *reflections*. *See Image 001: Peirce's Signs VIII, IX, and X, with its relationship to people's interpretations and psychological responses.*

Therefore, this urban adaptation of *Pragmaticism*'s ontology, epistemology, and methodology articulate a *holistic* view of the urban environment and city stakeholders' perceptions, interpretations, psychological responses and aspirations to cities' spaces and experiences. See Table 01: *Desirable Cities paradigm.*

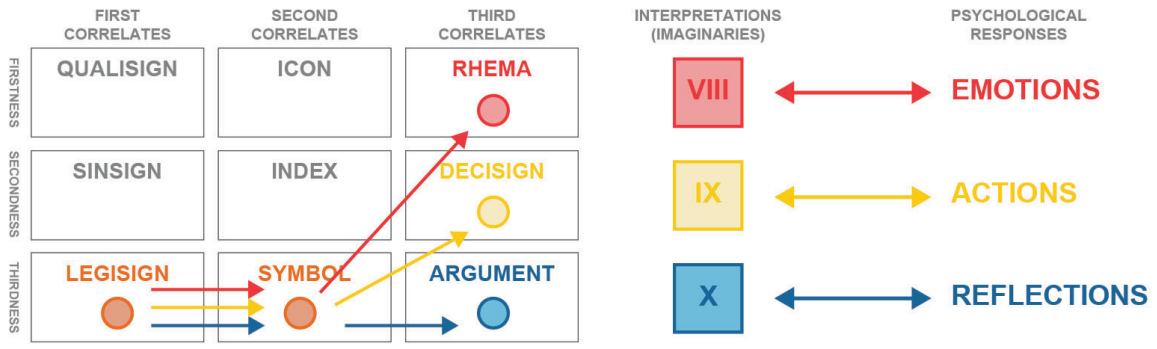


Image 001. *Peirce's Signs VIII, IX, and X, with its relationship to people's interpretations and psychological responses.*

Table 01
Desirable Cities' paradigm

	Firstness	***Secondness***	***Thirdness***
Ontology	*Real*'s Possibilities	*Real*'s Facts	*Real*'s Law
Epistemology	Representamen: Qualities of *Real*	Representamen-Object: Perceptions of *Real*	Representamen-Object-Interpretant: Interpretations of *Real* (realities)
Methodology	*VIII:* Law, Law, Possibility	*IX*: Law, Law, Existent	*X*: Law, Law, Law
Environment	*Natural*	*Cultural*	*Constructural*
Perceptions	*Similarities* ("*Icon*")	*Indicatives* ("*Index*")	*Symbolism* ("*Symbol*")
Interpretations	*Imageries* ("*VIII*")	*Positioning* ("*IX*")	*Arguments* ("*X*")
Aspirations	*Expectations of feelings*	*Expectations of activities*	*Expectations of meanings*
Responses	*Emotions*	*Actions*	*Reflections*

These three "*classes of signs*" or *imaginaries*: "*VIII*", "*IX*", and "X" can be exemplified as follows. The repeated and predictable sound (a quality on its *thirdness, or* "*legisign*") emitted by a pedestrian crossing signal is a recognisable quality. Within the urban culture, that quality-pattern means it is safe to cross (a "*symbol*"). However, this phenomenological urban experience may lead to three different imaginary interpretations: *imagery* ("*VIII*"), *proposition* ("*IX*"), or *argument* ("*X*"); which also will trigger different responses in city stakeholders: Some might feel a rush (*emotions*); others may walk faster, hastening to quickly cross the street and avoid missing the window (*actions*); still others might pause to reflect on how this system is designed to facilitate inclusive city life, like blind people who without the sound could not know when to cross (*reflections*). These *cultural* conventions of perceived *symbols*, affecting individual's interpretations as *imageries*,

and triggering *emotions*, *actions* and *reflections*, are essential to understanding people's expectations for *desirable* urban experiences. This understanding is crucial for allowing city stakeholders to identify, communicate and *holistically* satisfy their expectations for desirable urban experiences.

This means that the connection to people's expectations emerges from their environmental perceptions, interpretations, and psychological responses to past experiences and *cultural* influences (whether these were experienced firsthand in the form of memories or observed and heard from others in the form of images from physical or digital perceptions appropriated by mimesis). These memories articulated as *imageries* inform people's aspirations for future experiences, which connect the historical-*cultural* influences on their perceptions, interpretations, and psychological responses to future environmental experiences. In cities, the articulations of (A) these historical-*cultural* influences on (B) environmental perceptions, interpretations, and psychological responses inform (C) aspirations of future feelings, actions and ideas for desirable urban experiences. Therefore, these are the windows to understanding people's expectations for desirable urban experiences. Most importantly, when people are concentrated within the same environment, such as cities, their individual expectations and behaviours collectively impact how city spaces are experienced. Hence, *Desirable Cities* delves deeper into understanding and mastering the interactions and relationships between cities' environments and their city stakeholders' perceptions, interpretations, psychological responses, and aspirations, focusing on their expectations for desirable urban experiences.

Therefore, the *Desirable Cities* paradigm addresses how *natural*, *cultural* and *constructural* components of the environments influence people's perceptions (through *symbols*), forging interpretations (as *imageries*) and psychological responses (as *emotions*, *actions*, and *reflections*), that evolve into aspirations (as *expectations of feelings*, *expectations of activities*, and *expectations of meanings*). This *cultural* influence is essential as the works of Lacan and Girard demonstrate that these *imaginaries* are articulated with people's *fantasies*, *mimetic desires*, and aspirations. *Imageries* are therefore the most unconscious imagery of the environment as influential reality (which should not be confused with the "*Real*"), driving people's desires.

Desirable Cities proposes the concept of *Cities' Phenomenological Imageries* of *Desire* or *Cities' PIDs*, where "*imageries*" can be articulated with other equally insightful concepts that are aligned with *Desirable Cities*' *Pragmaticism* paradigm, like Lacan's

"*signifiers*", which convey "*fantasies*" and "*desire*" (Lacan 2006, 681–700); Girard's social "*mimetic mechanisms*" (Girard 2000, 283–98); Dewey's aesthetics "*experiences*" (Dewey 1995, 354–93); Eco's "*architectural sign*" and Preziosi's "*architectonic semiosis*" (Eco 1997; Preziosi 1979, 47–104); Silva's "*urban imaginaries*" (Silva 2017, 177–84); Debord's "*spectacles*" (Debord 2005, 16–25); Lynch's "*image of the city*" (Lynch 1960, 14–90); Rose's "*visual culture*" and "*visual pleasure*" (Rose 2016, 147–84). This also means that *Desirable Cities*' is starting from an "*aesthetic*" data collection towards "*ethical*" ontological positioning with a "logical" pursuit using Peirce's normative of science terms.

Complementarily, *Desirable Cities* addresses city stakeholders based on their level of involvement in the development and influence of cities' spaces. *Desirable Cities* draws from de Certeau's distinction between "*strategies*" and "*tactics*" (de Certeau 2013, xix), to propose two main general categorisations based on two criteria: (1) city stakeholders' level of influence and power of decision-making when it comes to the development of cities' spaces, and (2) city stakeholders' level of impact on how these spaces are used after being built. Hence, *Desirable Cities* distinguishes city stakeholders as *city makers* and *city users*. To address the internal nuances of making and using cities' spaces, *Desirable Cities* developed extended subcategories: *City makers* include policymakers, urban planners, real estate developers, architects, designers, engineers, and builders. *City users* include residents, commuters, and local and foreign visitors.

This relationship between *city makers* and *city users* also required a framework to analyse their interactions and communication process. *Desirable Cities* adapted Jakobson's model of communication (Jakobson 1978, 351–74), and its influences from Bühler's model (Bühler 2011, 34–35), to develop an urban model that represents the communication between *city makers* and *city users*, which led to the development of didactical visual tools empirically tested, through protocols inspired by Lynch's urban ethnography studies (Lynch 1960, 14–90; 2006, 185–204), Rose's "*critical visual methodologies*" (Rose 2016, 24–47), and Pink's work on ethnography through visual research (Pink 2001, 17–46), among others, all of which align with Peirce's *Pragmaticism*.

All these unified theories of *Desirable Cities*' paradigm, theoretical framework, and empirical testing were founded upon pilot studies that spanned over twenty-five years of professional experiences, which include in the past four years the *Desirable Cities*' series of empirical experimentations in more than thirty (30) popular locations in Shanghai, involving more than ninety (90) participants. These preliminary studies are part of an extensive exploration conducted from the beginning of *Desirable Cities'*

research, organised into five groups: (1st) the preliminary reflections about *the distinction between city makers and city users*; (2nd) the preliminary analysis about *the problematic approach of the traditional cities' development*; (3rd) the preliminary analysis about *the redeemable possibilities of alternative movements to traditional cities' development*; (4th) the preliminary analysis about *the advantages of Shanghai as a global urban laboratory*; and (5th) the preliminary empirical trials acting as *Desirable Cities*' sketches of the didactical visual tools proposed.

From these five preliminary studies, *Desirable Cities*' main inference became: To articulate an updated and *interdisciplinary* theoretical framework of the available knowledge about the relationship between people and their environments from different realms of knowledge, focusing on city stakeholders' expectations towards desirable urban experiences, in order to develop didactical visual tools that help all city stakeholders to understand and implement this complementary knowledge in the development of cities.

Thus, *Desirable Cities*' main research question is: Can semiotic methods and didactical visual tools help *city makers* and *city users* to identify, communicate, and *holistically* satisfy their expectations for desirable urban experiences?

To properly identify their expectations for desirable urban experiences, it is fundamental to be aware of them. City stakeholders must know their conscious and unconscious expectations to be able to satisfy them. However, to *holistically* satisfy their expectations, city stakeholders must understand the necessary balance within the Earth's ecosystems, the well-being of all the city stakeholders, and thriving urban spaces, to efficiently communicate their identified desirable urban experiences within the internal groups of *city makers* and *city users*. Only then would the *city makers* be able to consciously and proficiently articulate the entire spectrum of city stakeholders' expectations when executing their responsibilities in developing cities' spaces, and *city users*' behaviours will resonate with those cities' spaces, creating desirable urban experiences. Therefore, *Desirable Cities*' main research question is connected to three sets of objectives: (A) the understanding of city stakeholders' conscious and unconscious expectations for desirable urban experiences, including global trends, (B) the efficient communication between *city makers* and *city users* about their identified expectations, and (C) the proficiency of *city makers* and the awareness of *city users* to collectively contribute to the development of *holistic* desirable urban experiences.

And these objectives are connected with three aims: (A) Understanding is linked to being able to manage people's *desirable expectations of feelings*, *activities*, *and meanings*

that they want to experience in cities through their *Cities' PIDs*. (B) Communication is linked to fostering an in-depth understanding of the urban process of transferring information, meanings, and influences between *city makers* and *city users* through a semiotic process. (C) *City makers' proficiency and city users' awareness are* linked to provide city stakeholders with accessible knowledge and didactic tools for them to consciously identify their desirable urban experiences.

The benefits of (A) proper identification are related to how complementary knowledge could reveal the conscious and unconscious impulses of desire triggered by the environment, which influence people's *emotions*, *actions* and *reflections* within cities' spaces, and how these impulses, if recognised and well managed, have the potential to positively influence city stakeholders' capacities to understand and communicate their previous experience and future expectations for desirable urban experiences within cities' spaces. The benefits of (B) efficient communication are related to harmonious and empathetic coexistence between *city makers* and *city users*, encouraging the development of didactical and accessible communication mediums. The benefits of (C) proficiency and awareness are related to how complementary knowledge could substantially improve *city makers*' and *city users*' understanding of people's perceptions, interpretations, psychological responses, and aspirations to urban experiences and, therefore, aims for more *holistically* sustainable, healthy, and attractive projects within their cities, leading to the satisfaction of both *city makers*' and *city users*' expectations for desirable urban experiences.

Desirable Cities concludes the research by developing practical tools that implement the research's theoretical framework's findings and contributions to actual urban conditions and future real applications, taking into consideration the didactical design required to make these tools accessible to all the different groups and agendas of the city stakeholders, resulting in four clear research goals: (1st) to articulate complementary theories within the analysis and practice of city development, explained in *part three: Desirable Cities' theoretical framework* and *part four: Desirable Cities' theoretical application*; (2nd) to develop methods and tools that facilitate applying and deploying these articulated theories within the context of urban studies and city developments, explained in *part five: Desirable Cities' testing methodology*; (3rd) to test the performance of the proposed methods and tools within the field of research, explained in *part six: Desirable Cities' results*; and (4th) to evaluate and suggest further ways of developing *Desirable Cities*' theoretical framework, methods and tools for potential future studies and urban projects, explained in *part seven: Desirable Cities' ways forward*, in which

a proposal for a mobile/digital application is presented (*Koinos*) as a way to apply the findings of this qualitative research at the scale of an entire city.

These initiatives aim to promote more *desirable* city spaces and contribute to developing attractive cities worldwide; they are designed to *holistically* and harmoniously match the expectations of city stakeholders for desirable urban experiences, in equilibrium with the Earth's balanced ecosystems, and to trigger pleasurable urban experiences and social well-being for all city stakeholders.

2.2. Research problem

The problem *Desirable Cities* addresses is the material-centric focus of traditional city development. Despite significant advances in urban planning and city development throughout history, the ecological equilibrium of the Earth's ecosystems has been deteriorating, and not all segments of city stakeholders have living conditions that are conducive to their well-being. This research problem arises from recognising that city's spaces are shaped by competing agendas among different stakeholders, including *city makers* (policymakers, urban planners, real estate developers, architects, designers, engineers, and builders) and *city users* (residents, commuters, and local and foreign visitors), It also aims to encourage the implementation of an updated *interdisciplinary* knowhow of the complex relationship between people and the environment, encompassing emotional, physical and intellectual dimensions. In other words, the divergent interests of the different groups of city stakeholders and the knowledge gap secluded in the niche of other disciplines often lead to urban outcomes that prioritise physical form, function, and economic profitability over the Earth's ecological sustainability and people's well-being (Ciutiene et al. 2020; Lawrence and Gatzweiler 2017; Mühlhaus et al. 2018; O'Brien et al. 2013; Ringsberg et al. 2023).

2.3. Research questions

2.3.1. Primary question

- Can semiotic methods and didactical visual tools help *city makers* and *city users* to identify, communicate, and *holistically* satisfy their expectations for desirable urban experiences?

2.3.2. Secondary questions

- How can *interdisciplinary* insights enable city stakeholders to properly identify, effectively communicate, and *holistically* satisfy their expectations for desirable urban experiences?
- How can *interdisciplinary* knowledge from ecology, geography, biology, sociology, psychology, anthropology, ethnography, semiotics, communication, and economics better integrate within city development to enhance urban experiences and create more *holistic*, *desirable* city spaces?
- What barriers have prevented the effective implementation of breakthroughs in other disciplines regarding understanding the relationship between people and their environment in city development?
- How can *city makers* and *city users* be equipped with didactical visual tools to identify, communicate, and *holistically* satisfy the shared expectations for desirable urban experiences?

2.4. Research objectives

2.4.1. Primary objective

- The primary objective of *Desirable Cities* is to develop and validate a *holistic* and *interdisciplinary* theoretical framework for creating didactical visual tools that enable *city makers* and *city users* to identify, communicate, and mutually and *holistically* satisfy their expectations for desirable urban experiences.

2.4.2. Secondary objectives

- To explore how city stakeholders can properly identify their conscious and unconscious expectations for desirable urban experiences.
- To explore how city stakeholders can effectively communicate their expectations for desirable urban experiences to all the subgroups of *city makers* and *city users*.
- To synthesise insights from other realms of knowledge into a comprehensive theoretical framework to address the communicative mediums that could bridge *city makers'* and *city users'* sustained conversations.

- To investigate the barriers that have prevented the effective implementation of breakthroughs from other disciplines about understanding the relationship between people and their environment in city development.
- To implement the assembled *holistic* and *interdisciplinary* theoretical framework in the design and development of didactic visual tools to enhance the proficiency, awareness, and communication mediums for both *city makers*' and *city users*' regarding their expectations for desirable urban experiences.
- To empirically test the performance of the proposed tools and frameworks in the selected field of research.
- To develop recommendations for future development that incorporate *Desirable Cities*' findings and potential ways forward.

2.5. Research scope

Desirable Cities is built on Peirce's *Pragmaticism* as a paradigm, articulating a theoretical framework for understanding the emotional, physical and intellectual dimensions of city stakeholders' expectations for desirable urban experiences. This theoretical framework is validated through an empirical scope that focuses on urban public spaces, involving *city makers* and *city users* as participants, thereby grounding this study in a concrete, real-world application. The empirical scope is qualitative, focusing on a single field of research and a limited participant sample, allowing for a focused empirical investigation that prioritises depth over quantity. The empirical testing's design intentionally narrows its focus to Xintiandi (field of research) with four participants, two architects (*city makers*) and two local visitors (*city users*), ensuring the research is manageable and methodologically rigorous. By concentrating on a particular urban context and participant set, the research can provide detailed insights into the dynamics of *Desirable Cities*' tools to elicit urban *desirability*, while ensuring the practical application of the proposed framework and tools development.

2.6. Research significance

As urbanisation accelerates globally, with two-thirds of the world's population projected to live in cities by 2050 (United Nations 2019), the demand for urban environments that mindfully cater to the needs and *desires* of all city stakeholders from *ecological*, *social*, and *architectural* perspectives, including people's *emotional*, *physical*, and *intellectual*

expectations, becomes increasingly critical and paramount. *Desirable Cities* addresses the research problems through a *holistic* paradigm (adapting Peirce's *Pragmaticism* into urban studies) beyond its general relevance, the significance of *Desirable Cities* lies in its *interdisciplinary* yet pragmatic contribution: it assembles philosophy, ecology, geography, biology, sociology, anthropology, ethnography, psychology, semiotics, communication, and economics theories into a reproducible dialogue between *city makers* and *city users*, and operationalises that dialogue through didactical visual tools, in contrast to stakeholder engagements that are typically organised along a single strand (e.g., consultation sessions or purely data-led dashboards).

Desirable Cities mediates between top-down and bottom-up perspectives, treating desirability as a dynamic link between these complex and holistic relationships, which is co-produced rather than a static checklist. It does so by eliciting *Cities' Phenomenological Imageries of Desire* (*Cities' PIDs*) as a shared unit of analysis that links *emotions*, *actions* and *ideas* to the *natural*, *cultural* and *constructural* dimensions of places. To make this dialogic work practicable, the research qualitatively tested tools (Ca(p)mera, Following>Camera, FloatingvCamera; Emotion-naire Cards; Structure-naire Canvas with the Terms-naire Tray) through protocols including walks and talks that triangulated the result for bringing tacit expectations to the surface so they can be compared and negotiated across stakeholders. This empirical test conducted in Shanghai does not claim to replace existing practices; instead, it offers a transferable protocol intended to enhance thematic richness, *holistic* integration and communicative efficacy between *city makers* and *city users. As a conclusion, it proposes a path* forward to quantitatively scale up the findings (through a mobile application, *Koinos*) across a city as vast as Shanghai (approximately 24 million residents), thereby unlocking new potential for knowledge creation about urban *desirability* that prior siloed methods have not made jointly available. Therefore, *Desirable Cities* articulates an interdisciplinary and updated theoretical framework, with innovative efforts for developing didactic visual tools that all city stakeholders could easily use to identify and communicate their expectations for desirable urban experiences with the purpose of holistically satisfy them, including Earth's ecological sustainability and people's well-being. In short, *Desirable Cities* articulates a Peircean, *holistic* paradigm and operationalises it through didactic visual tools that elicit *Cities' PIDs*, enabling *city makers* and *city users* to negotiate desirable urban experiences with *natural*, *cultural* and *constructura*l coherence

2.7. *Desirable Cities*' thesis structure

The *Desirable Cities* thesis is structured into nine (9) parts. *Part one* is this introduction, and the next eight parts are organised as follows:

Part two, titled *Desirable Cities' grounding*, lays the foundational framework for *Desirable Cities*' positioning within the broader discourse of urban studies and city development by outlining the preliminary studies' explorations conducted from the beginning of *Desirable Cities*.

Part three, titled *Desirable Cities' theoretical framework*, articulates the literature on the *Pragmaticism* paradigm, the *natural*, *cultural*, and *constructural* environment, and its *holistic* integration.

Part four, titled *Desirable Cities' theoretical application*, shows the framework's applicability by articulating communications, semiotic and economic models adapted for developing *Desirable Cities*' methods and tools.

Part five, titled *Desirable Cities' testing methodology*, outlines the research methodology employed to empirically test *Desirable Cities'* tools. It describes the processes used for designing and implementing the proposed tools aligned with *Desirable Cities*' scientific research paradigm.

Part six, titled *Desirable Cities' tools testing results,* presents the proposed tools' results, analysis, and findings.

Part seven, titled *Desirable Cities' ways forward*, outlines proposals for future urban development practices that consider the insights gained from *Desirable Cities'* findings, including recommendations for enhancing *city makers*' understanding of *city users*' expectations and promoting *holistically desirable* urban spaces. It also discusses the future scalability of *Desirable Cities'* findings with the proposal of a mobile/digital application named *Koinos*.

Part eight, titled *Desirable Cities' conclusion*, synthesises the findings and presents the research's concluding arguments.

Part nine, titled *Desirable Cities' resources*, lists all references and sources that have informed *Desirable Cities*. This section acknowledges the broad spectrum of academic literature, empirical studies, computer programs, and the people who supported this endeavor.

FRENCH SUMMARY OF PART TWO

FONDEMENTS DE *VILLES DÉSIRABLES*

3. FONDEMENTS DU CADRE THÉORIQUE DE *VILLES DÉSIRABLES*

Aperçu des fondements du cadre théorique de *Villes Désirables*

Cette section établit le cadre fondateur du positionnement de *Villes Désirables* dans le discours plus large des études urbaines et du développement urbain. Elle présente les études préliminaires menées lors du développement de la proposition de *Villes Désirables* et des premières années de recherche, qui ont précédé le développement du cadre actuel de *Villes Désirables*. Ces études préliminaires englobent les perspectives de l'expérience professionnelle en développement urbain, une analyse des pratiques traditionnelles de développement urbain, une exploration des mouvements urbains alternatifs, une évaluation critique de Shanghai comme terrain de recherche urbaine, et les expérimentations empiriques initiales de *Villes Désirables*.

La distinction entre *créateurs de villes* et *utilisateurs de la ville*

L'analyse préliminaire de *Villes Désirables* a identifié une problématique critique : les différentes approches du développement urbain adoptées par les *créateurs de villes* (décideurs politiques, urbanistes, promoteurs immobiliers, architectes, ingénieurs, designers, constructeurs) et par les *utilisateurs de la ville* (résidents, voyageurs, visiteurs). Le cadre de Michel de Certeau (2013) distingue entre les « *stratégies* » - comment les institutions imposent l'ordre et la vision officielle - et les « *tactiques* » - actions créatives et imprévues des utilisateurs trouvant des usages adaptatifs pour les espaces urbains.

Ceci révèle une déconnexion cruciale entre la ville telle que conçue par les *créateurs de villes* et telle qu'expérimentée par les *utilisateurs de la ville*. Vingt ans d'archives auto-ethnographiques démontrent comment les « *stratégies* » sont produites depuis une institution distante, tandis que les « *tactiques* » émergent dans la vie urbaine quotidienne. L'écart réside dans la conscience, l'efficacité de la communication, et le décalage entre les approches descendantes et les réalités urbaines dynamiques façonnées par les comportements créatifs des utilisateurs.

L’approche problématique du développement traditionnel des villes

L’analyse de *Villes Désirables* révèle une focalisation historique sur la matérialité, négligeant l’équilibre entre développement urbain, écosystèmes terrestres, et bien-être des parties prenantes à travers cinq phases :

Fondation urbaine (9000 AEC - 800 AEC) : Les premières villes comme Çatalhöyük et Uruk sont dotées d’un équilibre essentiel, avec des communautés accordées aux écosystèmes près des vallées fluviales, des structures sociales claires, et des formes bâties harmonieuses avec la nature. *Naturel* : équilibré | *Culturel* : équilibré | *Construit* : équilibré.

Expansion urbaine (800 AEC - 1490 EC) : Les civilisations grecques, romaines, chinoises placent les villes au cœur de la gouvernance, façonnant de plus en plus les écosystèmes pour les ambitions humaines. Les routes commerciales et l’architecture monumentale servent des objectifs hiérarchiques. *Naturel* : modéré- faible | *Culturel* : modéré-élevé (avec inégalités) | *Construit* : modéré.

Interconnexion urbaine (1490 - 1860) : La globalisation coloniale extrait les ressources avec peu de considération environnementale, intensifiant la stratification sociale. *Naturel* : faible | *Culturel* : élevé (avec inégalités) | *Construit* : élevé.

Révolution urbaine (1860 - 1980) : L’industrialisation par les usines et le logement de masse met de côté les considérations environnementales pour la capacité de production, créant des quartiers surpeuplés. *Naturel* : minimum | *Culturel* : dominant (avec inégalités dominantes) | *Construit* : dominant.

Innovation urbaine (1980 - présent) : La digitalisation intensifie les schémas précédents. Les villes deviennent des centres financiers/technologiques avec des modèles de Ville Intelligente renforçant les priorités économiques sur le développement *holistique*. *Naturel* : minimum-faible | *Culturel* : dominant (avec inégalités) | *Construit* : dominant-élevé.

Ce schéma montre des villes priorisant les gains économiques/technologiques tout en sous-évaluant l’équilibre écologique et la santé sociale - les défis actuels résultent du déséquilibre cumulatif entraîné par le matérialisme.

Les possibilités rédemptrices des mouvements alternatifs

L'étude de *Villes Désirables* prend en compte des mouvements alternatifs, prônant d'autres formes, ou modèles de développement urbain. Cependant, bien que les mouvements alternatifs listés ci-après intègrent des connaissances complémentaires dans leurs modèles, leur petite échelle maintient leurs développements positifs réels, isolés et fragmentés.

Durabilité (Beatley 2000, Girardet 2008) : le mouvement du développement urbain durable est constitué de modèles équilibrant les priorités écologiques / et les économiques et sociales comme Hammarby Sjöstad. *Naturel*: Modéré-Élevé | *Culturel* : Faible-Modéré | *Construit* : Modéré-Élevé.

Biotechnologie (Armstrong 2010, 2023) : l'idée de ces modèles est de s'appuyer sur les systèmes vivants pour « améliorer » l'environnement urbain, et apporter des bénéfices environnementaux aux villes, par exemple en « purifiant » l'air par la séquestration biologique de CO2. *Naturel* : Élevé | *Culturel* : Faible-Modéré | *Construit* : Élevé.

Marketing urbain (« I Amsterdam ») : le mouvement du marketing urbain cherche à s'opposer à l'homogénéisation des paysages urbains en soulignant la spécificité de chaque lieu, et en lançant des campagnes d'identité culturelle promouvant souvent le patrimoine. *Naturel* : Minimal | *Culturel* : Modéré-Élevé | *Construit* : Élevé.

Analyse des données (Kitchin 2014) : ce mouvement défend une approche de l'urbanisme en temps réel, fondée sur l'exploitation de données massives pour optimiser les transports, les réseaux d'énergie et la coordination des services urbains. *Naturel* : Modéré | *Culturel* : Faible-Modéré | *Construit* : Élevé.

Communauté sociale (Jacobs 2016) : la mise en avant des communautés sociales urbaines, et notamment de la mixité, vise à favoriser l'émergence de quartiers mixtes comme solution à l'aliénation urbaine, en favorisant l'identité locale. *Naturel* : Faible-Modéré | *Culturel* : Élevé | *Construit* : Modéré-Élevé.

Émotions spatiales (Ellard 2015) : les approches basées sur les émotions spatiales se concentrent sur les impact psychologiques et émotionnels du design sur les individus et sur leur bien-être. *Naturel* : Faible-Modéré | *Culturel* : Élevé | *Construit* : Modéré-Élevé.

Exploitation des affordances (Gibson 2015) : l'approche par les affordances met l'accent sur les possibilités d'action offertes par l'environnement à différents individus, encourageant un design urbain qui s'adapte aux usages et aux activités quotidiennes des habitants. *Naturel* : Faible-Modéré | *Culturel* : Élevé | *Construit* : Modéré-Élevé.

Cependant, chacun de ces mouvements se concentre sur une dimension unique, visant à améliorer un seul des paramètres à la fois. *Villes Désirables* propose une approche *holistique* unissant les trois paramètres : *Naturel* : Équilibré | *Culturel* : Équilibré | *Construit* : Équilibré.

Les avantages de Shanghai comme laboratoire urbain global

Shanghai se positionne comme laboratoire urbain unique avec 750 ans d'évolution créant une structure polymorphe sur 6 000 kilomètres carrés. Les morphologies clés incluent les villes d'eau traditionnelles du Jiangnan, la grille de l'ex-Concession britannique, les rues résidentielles arborées de l'ex-Concession française, les Lilong distinctifs mélangeant éléments chinois-occidentaux, et les développements contemporains allant de la planification de style soviétique au district financier de Lujiazui qui incorpore les technologies intelligentes.

Cette juxtaposition de formes diverses - de la planification chinoise traditionnelle à contemporaine adaptée à divers contextes politiques/économiques - offre une opportunité remarquable d'étudier les phénomènes urbains dans une société faisant face continuellement aux changements urbanistiques, culturels, politiques, économiques et technologiques, justifiant la recherche de terrain de *Villes Désirables* à Shanghai malgré sa portée internationale.

Expérimentations empiriques initiales de *Villes Désirables*

Les expérimentations préliminaires de *Villes Désirables* ont étudié pendant trente mois, avec quatre-vingt-dix participants et dans trente lieux populaires, comment les dimensions émotionnelles, physiques et rationnelles convergeaient dans les espaces publics de Shanghai. Elles ont été organisées en cinq phases, précisées ci-après, progressant de l'échelle macro à la micro-perception :

Shanghai-map : dans cette phase, on établit une base à l'échelle de la ville, ciblant des lieux emblématiques (hotspots), qui combine des observations de terrain et des données numériques (digital-trace layer, ou « trace numérique ») téléchargées depuis des plateformes en chinois et en anglais. Cette combinaison multi-source révèle comment les signifiants, les contextes locaux et les canaux d'information construisent conjointement des expériences urbaines désirables à travers les couches numériques/physiques.

Question-naire : la phase Question-naire est constituée d'entretiens linguistiques au Bund, Place du Peuple et à Xintiandi (*P01-P30*) qui révèle la construction verbale de la désirabilité, et montrent comment les messages médiatisés amorcent des attentes auprès des individus, tandis que les indices sur site ancrent leur conduite, justifiant le passage à l'élicitation visuelle.

Picture-naire : dans cette phase, les participants (*P31-P46*) photographient et annotent les éléments attrayants, révélant des perceptions difficiles à verbaliser. Ils en renforcent la validité au moyen d'images composées capturant le contexte.

Photo-naire : cette nouvelle phase est un test de synthèse à un niveau macro, qui utilise des cartes photographiques de sites entiers avec *créateurs de villes* et *utilisateurs de la ville* (*P47-P54*), et qui révèle comment différents corpus de connaissances conditionnent la reconnaissance de modèles, tout en montrant aussi les limites des photographies dans les scènes saturées.

Graphic-naire : La phase Graphic-naire est une étape supplémentaire de traitement qui remplace les photographies par des illustrations simplifiées éliminant l'encombrement visuel. Elle permet de valider la reconnaissabilité puis et d'étendre l'analyse à neuf sites (*P55-P90*) en utilisant des protocoles d'immersion et génératifs, révélant des associations métonymiques et métaphoriques alignées avec l'analyse du désir de Lacan et le *pragmaticisme* de Peirce (1933, 1960).

Ces expérimentations ont permi de construire une boîte à outils multimodale allant du pragmatisme vers le *pragmaticisme*, et qui permet de rendre observable la manière dont les signes influencent la conduite.

PART TWO.
DESIRABLE CITIES' GROUNDING

4. *DESIRABLE CITIES*' GROUNDING OF THE THEORETICAL FRAMEWORK

4.1. *Desirable Cities*' grounding overview

This section lays the foundational framework for the *Desirable Cities* positioning within the broader discourse of urban studies and city development. It outlines the preliminary studies conducted over *Desirable Cities*' proposal development and the first years of the research, which informed the development of the current *Desirable Cities*' framework and how this thesis is presented. These preliminary studies encompass (1st) insights from professional experience in city development, (2nd) an analysis of traditional city development practices, (3rd) an exploration of alternative urban movements, (4th) a critical evaluation of Shanghai as an urban field of research, and (5th) the initial empirical trials of *Desirable Cities*. These analyses and trials collectively shape the current propositions of *Desirable Cities*.

4.2. The distinction between *city makers* and *city users*: A concise account of John Villar's professional experiences, revealing the tension between *city makers* and *city users*

The *Desirable Cities*' preliminary analysis of city stakeholders identified a critical issue: the differing approaches to cities adopted by two key groups: *city makers* and *city users*. These groups have divergent roles in shaping the urban environment, with distinct inputs and priorities. A fundamental insight from *Desirable Cities* lies in distinguishing between the roles and actions of these two groups, aiming to bridge their gap.

Urban environments emerge from the ongoing interaction between two primary groups: those who plan, regulate, and construct the city (*city makers*) and those who inhabit and use the urban space (*city users*). *City makers* include policymakers, urban planners, real estate developers, architects, engineers, designers and builders; decision-makers who strategically shape the city's physical and regulatory structures. In contrast, *city users* encompass residents, commuters, and local and foreign visitors; individuals who engage with, and appropriate, urban spaces once these spaces are built.

Michel de Certeau's theoretical framework offers a valuable lens for understanding this distinction. De Certeau differentiates between "*strategies*" and "*tactics*" to explain the

interplay between structures of power and everyday practices. As he states: "*I call a 'strategy' the calculus of force-relationships which becomes possible when a subject of will and power (a proprietor, an enterprise, a city, a scientific institution) can be isolated from an 'environment'*" (de Certeau 2013, xix). Besides de Certeau's mention of "*cities*", the keyword is "*isolation*". As de Certeau argues, those in power, whether individuals or institutions, create and impose models or systems from a position outside those models or systems. In this sense, the strategists are separated from the system they are shaping:

> "*A strategy assumes a place that can be circumscribed as proper (propre) and thus serve as the basis for generating relations with an exterior distinct from it (competitors, adversaries, 'clientèles,' 'targets', or 'objects' of research). Political, economic, and scientific rationality has been constructed on this strategic model*" (de Certeau 2013, xix)

In contrast, de Certeau describes tactics as follows:

> "*I call a 'tactic', on the other hand, a calculus which cannot count on a 'proper' (a spatial or institutional localization), nor thus on a borderline distinguishing the other as a visible totality. The place of a tactic belongs to the other. A tactic insinuates itself into the other's place, fragmentarily, without taking it over in its entirety, without being able to keep it at a distance. It has at its disposal no base where it can capitalize on its advantages, prepare its expansions, and secure independence with respect to circumstances*" (de Certeau 2013, xix)

In *Desirable Cities*, strategies are how institutions and powerholders (*city makers*) impose order and an official vision and structures on the city. These strategies might include zoning laws, master plans and projects that present the city as a unified and regulated whole. Conversely, tactics are the creative, often unanticipated actions of *city users* who find adaptive uses for urban spaces. For example, a coffee shop's outdoor terrace might be designed by *city makers* with specific urbanistic, commercial, architectonic and aesthetic purposes; yet, *city users* may transform the surrounding space in unexpected ways: residents walk their dogs there, where dogs might urinate; workers take breaks outside, where they might smoke; and visitors navigate the space, where they might take photographs of the dogs urinating and workers smoking, rather

than the terrace's features proudly designed. These formal, systematically planned and informal, spontaneous uses reveal the tensions between *city makers*' intentions and *city users*' lived experiences.

This example shows a crucial insight into frequent urban dynamics. There is often a disconnect between the city as it is conceived by *city makers* and the city as it is experienced by *city users*. This gap between intention and use is a central theme in *Desirable Cities*. De Certeau argues that examining how those who are not the "*makers*" of a system interact with it allows people to understand the divergence between the planned use and its actual use (de Certeau 2013, xiii). In the coffee shop example, one might question whether *city makers* intended the space to be used as a pet relief area, a smoking area, or a spot for visitors to take photographs. While the design and use align in some cases, the expectations of *city makers* and *city users* do not coincide in many others.

To bridge this gap, it is essential to recognise that *city users* are not passive consumers of urban space but active agents who employ tactics to shape their environment. De Certeau himself preferred the term "*user*" over "*consumer*"; this differentiation emphasises the active role that individuals play in engaging with the city (de Certeau 2013, xvii). In the *first preliminary study*, *Desirable Cities* explored this active engagement through an autoethnographic approach. The following 20-years of autoethnographic records thread together architectural education in America, practice in renowned European firms, hands-on construction and structural engineering, large- scale work in China, the management of international offices, and university teaching. Read through de Certeau's lens, these situated experiences make visible how "strategies" are produced from positions of institutional distance, while "tactics" emerge in the frictions and workarounds of everyday urban life. This longitudinal view provides the lived substrate behind the distinction of the *city makers* and *city users* that structures this section.

Villar's earliest encounters already revealed the strategic–tactical split: Education pushed ideals; projects ran on budgets, schedules and what clients liked, which was not academically trained. Those early commissions in Colombia, Mexico, Nicaragua, Panama, Salvador and Venezuela surfaced two recurring tensions that this thesis later formalises: (a) the drift of expert practice toward abstract ideals that can become isolated from lived use, and (b) the pull of users toward immediate, situated satisfactions that may ignore longer-term collective aims like ecological sustainability and general social well-being.

Subsequent practice inside prestigious architectural offices in Madrid and London sharpened the point. Despite their different design approaches, modernist functional clarity in one context and post-modern formal experimentation in another, the organising logic in both practices remained predominantly material and formal. Users' emotional and psychological experience rarely entered in the design programme inputs; it appeared, at best, as an anecdote. Recognising this blind spot set the groundwork for *Desirable Cities*' insistence on human-centred evidence alongside formal and functional standards, with sustainable responsibilities.

Worked as a builder and structural engineer, then exposed the internal pluralism and frequent conflict within the *city makers* group itself. Policymakers, real estate developers, architects, builders, and structural, electrical, lighting, acoustic, mechanical and telecommunications engineers often operate with distinct performance logics, schedules and risk profiles; negotiation rather than harmony is the norm. Seeing these negotiations up close reinforced that *city makers* is not a monolith but a shifting coalition whose strategies must be coordinated before meaningfully meeting *city users*' tactics.

Practice in Shanghai, focused on rapid densification in China, Mongolia, and Indonesia, green-tech upgrades and pervasive urban digitisation, made the scale effects unmistakable. City authorities and developers set bold strategic political- economic targets; planners, architects and engineers translated them into instruments and works; yet users continually re-composed spaces through informal commerce, social appropriation and everyday circulation. The experience clarified the thesis claim that *desirable* cities emerge when strategic coherence and tactical creativity are made mutually legible rather than left to collide.

Directing architectural offices in London, Barcelona, and Hong Kong added a socio-economic layer in experiences: profitability motivations, regulatory frames, labour conditions and brand differentiation intersect with professional ethics and public aims. At that interface, leadership work consists of converting competing success metrics into a shared project language, precisely the communicative problem *Desirable Cities* later operationalises.

Finally, university teaching across regions showed how curricula often prioritise technique and representation while underpreparing future *city makers* to read *city users*' tactics, sociopolitical constraints, and cross-disciplinary trade-offs. This gap motivates the *Desirable Cities* call for evidence-based, emotionally literate, and *interdisciplinary* proficiency as part of city-making competence.

This offers first-hand accounts of tensions between *city makers* and *city users*, highlighting instances where planned uses of space were subverted or enriched by users. These narratives highlight how users creatively appropriate urban spaces, such as turning park benches into exercise equipment or converting public squares into informal markets. Such practices demonstrate the importance of understanding how users interact with the spaces designed for them. It also provides examples of internal tensions within the *city makers* and *city users* groups, where different members of each group have conflicting agendas and expectations. For instance, disagreements between real estate developers' economic agendas, architects' aesthetic aspirations, and engineers' structural concerns reflect the disjunction between intended strategic or tactical executions among *city makers*. See *Image 002*: *City stakeholders' strategic and tactical interactions*.

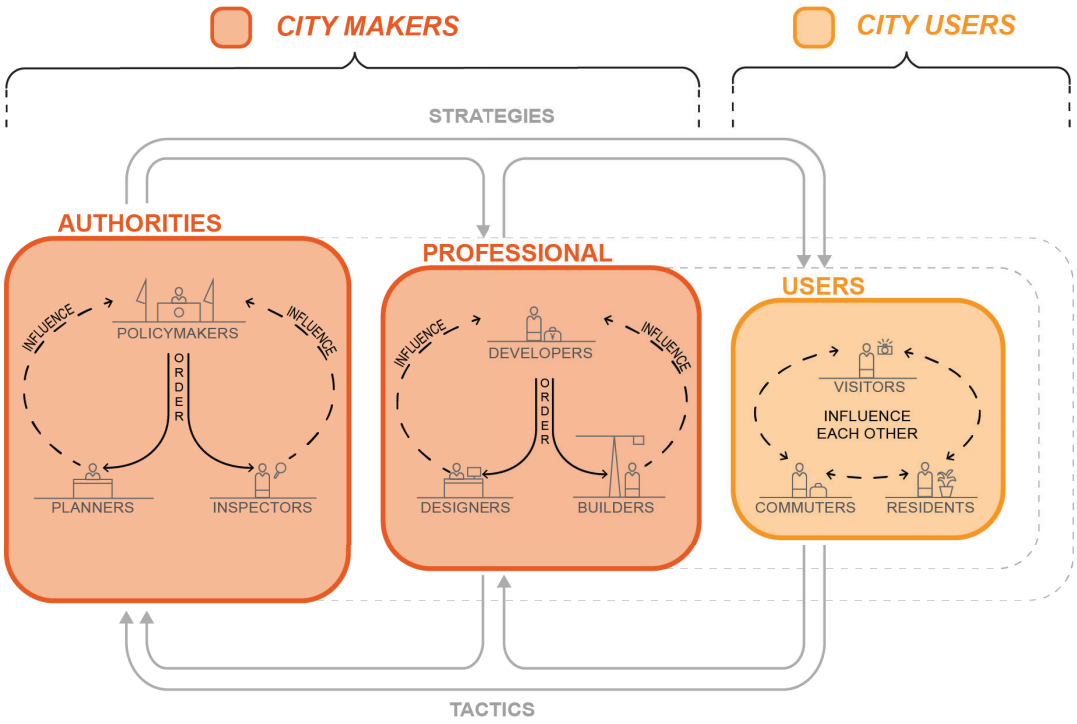


Image 002. *City stakeholders' strategic and tactical interactions.*

These experiences supply concrete narratives behind the diagram's arrows. They illustrate how *strategic* isolation enables efficient ordering yet risks drift from contemporary life, while *city users*' updated creativity re-animates spaces in ways plans rarely anticipate. In *Desirable Cities* terms, the task is not to suppress tactics but to anticipate, learn from and design with them, turning the feedback loops sketched in *Image 002* into an explicit project method. The misalignment, highlighted by de Certeau's reflections on "*isolation*" (de Certeau 2013, xix) and "*creativity*" (de Certeau 2013, xv–xviii), underscores how

the strategies of *city makers* are often separated from the tactics of *city users* by the increasing isolation of the strategists and the updated creativity of the tacticians. *Desirable Cities* highlights the often-unnoticed gap between (A) the isolation of *city makers* within their expertise and (B) the creativity of *city users* within their daily practices. Traditionally, urban studies and city development have focused primarily on the perspectives of *city makers*, assuming that experts know what is best for the city. Much less attention has been given to how *city users* interpret and modify their surroundings through everyday practice.

Existing planning models rarely integrate this bottom-up perspective, which should not be confused with what is known as "*participatory design*". *Participatory design* in urban planning and architecture involves stakeholders, users, and communities in the planning process "*to ensure*" "*inclusivity*" and "*responsiveness*" (Arnstein 1969; Blundell et al. 2009; Davidoff 1965; Gaber 2019; Healey 1997; Sanoff 2000; Turner 1977). While participatory design is a valuable practice, critics have raised concerns about "*tokenism*", "*power imbalances*", and "*inefficiencies*", emphasising the need for authentic collaboration and equitable engagement (Cooke and Kothari 2007; Cornwall 2008; Fainstein 2000; Yiftachel and Huxley 2000). The underlying issue is a gap in access to knowledge and the genuine opportunity to implement it. This involves awareness, communication and proficiency. In his work, de Certeau addresses a similar issue by exploring the distinction between "*experts*" and "*philosophers*". The autoethnographic confirms both the promise and limits of participatory procedure. While charrettes, consultations and co-design can surface valuable user knowledge, the work record shows that power, time and literacy asymmetries often blunt their effects; what changes outcomes is pairing participation with tools that translate everyday practice into actionable evidence for decision-makers. This is where *Desirable Cities* positions methods such as semiotic reading of places (to decode the meanings people assign to settings), spatial analytics (to map patterns of appropriation and movement), and structured post-occupancy feedback as routine inputs to strategy.

City makers, as experts in their respective fields, often face the challenge outlined by de Certeau, who describes how an expert "*introduces his speciality into the wider and more complex arena of socio-political decisions*" through which their "*competence is transmuted into social authority*" (de Certeau 2013, 6–7). Over time, however, as their authority grows, their expertise diminishes until:

> "*Ultimately, the more authority the Expert has, the less competence he has, up to the point where his fund of competence is exhausted ... During the process of conversion, he is not without some competence (he either has to have some or make people think he has), but he abandons the competence he possesses as his authority is extended further and further, drawn out of its orbit by social demands and/or political responsibilities*" (de Certeau 2013, 7)

This raises the question: When did policymakers, urban planners, real estate developers, architects, designers, engineers, and other *city makers* last pause in their work to examine how much people and cities have changed since they last acquired their expertise and competencies? The answers to this question vary; in many instances, *city makers*' expertise aligns with the needs and desires of *city users*. However, there are just as many instances where these two groups' expectations do not align. To address this, de Certeau proposes a philosopher's approach as a means to "...*re-establish the relevance of general questions to a particular technique (mathematics, logic, psychiatry, history, etc.)*" (de Certeau 2013, 7). *Desirable Cities* proposes this philosopher's approach to city development practices and techniques. For *city makers* to remain proficient, their knowledge must evolve in response to the changing relationship between people and space, which includes understanding the latest updates of people's perceptions, interpretations, psychological responses, aspirations and behaviours within urban environments.

The gap, therefore, lies in the awareness of *city makers* and *city users*, the effectiveness of communication between *city makers* and *city users*, the proficiency and strategies of *city makers'*, and *city users'* engagement with urban space through creative, tactical behaviours, reflecting genuine needs and desires, even if those behaviours often are unconscious and go unnoticed. In parallel, many *city makers* rely on top-down strategies and conventional knowledge that overlook how urban environments currently shape and are shaped by *city users*' tactics. This results in designs based on static assumptions rather than the dynamic realities of urban life (Ellin 2006, 1–3; Jacobs 2016a, 428–48). As a result, a disconnect often exists between how *city makers* envision a space and how it is used and experienced by *city users*. History offers numerous examples of well-intended projects, from austere modernist housing estates to large-scale urban renewal schemes (Jacobs 2016a, 392–404), which ultimately failed communities by disregarding local perceptions, interpretations, aspirations, and behaviours.

In essence, urban studies and city development must become more evidence- based and *interdisciplinary*, drawing from diverse fields of knowledge to better understand the complexity of urban experiences. Integrating these insights is central to the broader framework of this thesis. The *Desirable Cities*' framework seeks to identify and articulate the elements that contribute to an in-depth understanding of cities' dynamics, to encourage its awareness by all the city stakeholders, and therefore promote the effective communication of *city makers*' and *city users'* expectations for *desirable* urban experiences, to *holistically* satisfy these expectations within the development of cities proficiently. Therefore, this distinction between *city makers* and *city users* is not intended to create a dichotomy or set these two groups in opposition, but to ensure that both perspectives are considered when defining urban *desirability*. The framework gains critical depth by acknowledging the creative contributions of *city users*, as evidenced through the autoethnographic study and supported by de Certeau's theory. It recognises that a genuinely *desirable* city needs to be *holistically* developed.

Synthesised across roles, geographies and scales, the autoethnography advances three propositions that anchor this thesis: (1) strategies travel faster than people change, so expert knowledge must be periodically recalibrated to contemporary behaviours and desires; (2) tactics are not noise in the system but evidence of unmet or emerging expectations; and (3) the most resilient urban projects are those in which *city makers* openly broker their internal trade-offs before promising outcomes to *city users*. These propositions convert de Certeau's theory into operational criteria for *desirable* urban development. In practical terms, this means addressing how the lived realities of all city stakeholders can inform urban design practices. *Desirable Cities*, hence, specifies practical research lines that turn lived realities into design intelligence: combining qualitative accounts of everyday routines with quantitative traces (e.g., city stakeholders' movements and preferences), and, in select cases, physiological indicators such as attention proxies, to test whether a space supports the social and emotional experiences it claims. These studies are paired with diverse sampling to ensure that *desirability* does not collapse into a single demographic norm. *Desirable Cities* explores questions such as: How do the behaviours of city stakeholders reveal new criteria for urban desirability? How can *city users* know their tactical behaviour and expectations for having desirable urban experiences? How can *city makers* be aware of their strategic aspirations and expectations for developing desirable urban experiences? How can *city makers* determine the impact of their proposition on *city users*? How can *city makers* positively incorporate feedback from the everyday behaviours of *city users*?

These questions are answered in the *Desirable Cities*' *theoretical framework* and *theoretical applications*. In addition, another critical inquiry emerges: When did *city makers* start to focus their proficiency mainly on function and form, neglecting Earth's ecological sustainability and people's well-being? This question led to the following preliminary study, which examines the problematic approach of traditional city development as part of *Desirable Cities*' research background, named: *the problematic approach of traditional cities' development*.

4.3. The problematic approach of traditional cities' development: A concise account of Desirable Cities' preliminary analysis of the materialistic approach to traditional cities' development

Before presenting this critique, it is important to recognise the remarkable work of those who have contributed to the development of cities across eras. Policymakers, planners, developers, architects, engineers, designers, and builders have delivered shelter, sanitation, mobility, public space, and cultural institutions, often under severe constraints of law, risk, budget, and time. Their cumulative craft and knowledge has refined standards, protected and reinterpreted heritage, and expanded safety, health, and economic opportunity for millions. Without diminishing these achievements, the following assessment seeks to learn from them and recalibrate priorities so that urban life's *natural*, *cultural*, and *constructural* dimensions advance *holistically* together.

Thus, the *Desirable Cities*' preliminary analysis of traditional urban development highlighted a key issue: the historical focus on materiality, often neglecting the necessary balance between urban developments, Earth's ecosystems, and city stakeholders' well-being, including their emotional and social experiences triggered by urban spaces.

Urban environments have developed over the last 11,000 years. Recognised historical periods such as the Neolithic Era, Classical Antiquity, Middle Ages, Early- Modern, Mid-Modern, and Post-Modern eras, provide a standard time frame for examining this eleven-thousand-year development. However, in between these periods, significant transitions like the development of the first *underground* city trains (also known as metro or subway) or the development of the internet, made profound changes on cities developments, which encourage *Desirable Cities* to use the standard time frame of history together with five tailor-made categorisations of urban history to address these key urban transitions. Thus, *Desirable Cities* divides urban history into five key phases: *Urban foundation*, *urban expansion*, *urban interconnection*, *urban revolution*, and *urban innovation*. Each phase represents a defining shift in urban development, marked by distinct changes in

the *natural* environment (the relationship between cities and their *natural* environments), the *cultural* environment (social structures, economic and *cultural* activities), and the *constructural* environment (including technological advancements).

These phases allow *Desirable Cities* to trace the progression of urban systems over time, acknowledging the increasing materialisation of cities, where function and form became paramount, primarily driven by economic growth and technological advancements. However, this focus on materiality came at a significant cost: it often neglected the ecological consequences of unchecked urban development and *city users*' emotional and social experiences. This imbalance has contributed to today's urban crises, including ecological degradation, social inequality, and loss of well-being among some communities (Ellard 2015, 125–50; Hall 2014, 151–201; Harvey 2012, 137–38; Mumford 1961, 158–71).

Desirable Cities proposes a more *holistic* approach to urban development in response to these challenges, grounded in Alberto Magnaghi's theoretical framework. Magnaghi categorises the environment into three interconnected components: the "*Natural*" environment, the "*Built*" environment, and the "*Anthropic*" environment. He argues that these components must be understood as inseparable, emphasising the interdependence between natural processes, social narratives, and built forms. (Magnaghi 2011, 92). By applying this framework to the five historical urban phases outlined above, *Desirable Cities* explores the development of urban systems and identifies the imbalances that have emerged over time. Magnaghi's lens allows *Desirable Cities* to critique the traditional materialist approach, offering a foundation for rethinking urban development to balance ecological equilibrium and social well- being with thriving urban spaces for all the city stakeholders. *Desirable Cities* evaluates these *necessary natural, cultural, and constructural* dimensions using a five- tier ordinal scale: *minimal*, *low*, *moderate*, *high*, or *dominant*. It uses *balance* when the three dimensions are in equilibrium, simplifying how cities have managed them throughout history.

4.3.1. Urban foundation: The origins of cities (9000 BCE - 800 BCE)

The first phase of urban history marks the birth of permanent settlements driven by the rise of agriculture (Childe 1950, 3–17). These early cities, such as Çatalhöyük, Memphis, Harappa, and Uruk, emerged with the domestication of plants and animals, enabling people to form stable communities, plan long-term settlements, and create food

surpluses (Jacobs 2016b, 2; Jansen 1989, 177–82; Jeffreys 2007, 41–44; Zeder 2008, 11597–604). During this period, foundational urban characteristics began to take shape, influencing how city structures and operations would evolve in subsequent eras (Algaze 2014, 1–12; Childe 1950, 8–15; Mumford 1961, 29–39).

Natural environment. Cities in the Neolithic period were closely attuned to their ecosystems, reflecting a deep awareness of how local landscapes supported human settlement (Trigger 2007, 5). Communities flourished near river valleys, most notably in the Nile, Mesopotamia, and the Indus regions, taking advantage of fertile soils for agriculture (Jansen 1989, 177–80; Jeffreys 2007, 41–44; Smith 2014, 308). Early irrigation channels, constructed with basic techniques, ensured a reliable water supply and reinforced the importance of sustaining harmony with natural cycles (Jacobsen and Adams 1958, 1251–55; Postgate 2017, 11–12; Wittfogel 1978, 11–21). Domestication of plants and animals arose as an adaptive strategy to stabilise food sources, thus transforming formerly nomadic societies into permanent agricultural communities (Zeder 2008, 11597–602). Beyond food production, people sourced local materials such as mudbrick, stone, and limestone from the surrounding environment for construction, maintaining a balanced exchange of resources (Jeffreys 2007, 44– 46; Postgate 2017, 225–29). This close interdependence of human activity and ecology underscores the mutual reliance on new urban settlements and their immediate environment (UNESCO / ICOMOS 2012, 1–2).

Cultural environment. Early cities exhibited distinct social structures, emerging from the need to organise a steadily growing population. The existence of hierarchical systems, wherein religious and political authorities often overlapped, indicates that spiritual and administrative power were intimately intertwined (Childe 1950, 9–12; Postgate 2017, 16–19, 109–12). Temples and ceremonial spaces served dual purposes: they were centres of worship and loci for civic management (Postgate 2017, 109–12, 240–46). A clear division of labour arose, with artisans, farmers, and traders each performing specialised roles, creating a nascent social complexity that allowed these early settlements to function effectively (Postgate 2017, 225–41). In many cities, communal rituals and public gatherings cultivated a collective cultural identity closely linked to local ecosystems (Postgate 2017, 16-19,109-112). The population remained small relative to later periods, enabling more direct forms of governance and a sense of shared responsibility (UNESCO / ICOMOS 2012, 1–2). This collective mindset reinforced social cohesion and shaped an early vision of well-being encompassing spiritual, cultural, and economic needs (Childe 1950, 12–16).

Constructural environment. The built form during this era was primarily functional yet harmonious with natural surroundings. Advances in agricultural methods, such as irrigation, crop rotation, and the controlled breeding of domesticated animals, enabled sustained food production, supporting larger populations (Jacobsen and Adams 1958, 1251–58; Postgate 2017, 229–33; Zeder 2008, 11600–11604). These surpluses led to more permanent constructions: residential dwellings, storage facilities, and eventually monumental structures like temples or communal halls (Childe 1950, 13–16; Postgate 2017, 109–16). Innovations in building techniques included using fired bricks and stone for sturdier foundations and rudimentary but adequate drainage and sanitation systems (Jansen 1989, 177–92). Defensive walls and fortifications surfaced in some regions to protect inhabitants and their resources, revealing an evolving complexity in regional interplay (Bar-Yosef 1986, 157–62). Although still modest in scale compared to later periods, this *constructural* environment laid the groundwork for future urban growth, showing how early engineering achievements could remain integrated with local ecological conditions (UNESCO / ICOMOS 2012, 1–2; Postgate 2017, 229–33).

Across these early settlements, identifiable city models ranged from agglomerated "*tell*" settlements to planned riverine cities. At Çatalhöyük, densely clustered mud-brick houses were built wall-to-wall without streets and accessed via rooftops, an egalitarian, street-less neighbourhood pattern that prefigures later courtyard types (UNESCO / ICOMOS 2012, 299–304). In the Indus basin, Harappa and Mohenjo-Daro institutionalized an orthogonal layout tied to household wells and covered street drains; here, the sanitation system was a structural organizer of urban life rather than an afterthought (Jansen 1989, 177–92).

Desirable Cities addresses this part of the Neolithic period (9000 BCE – 800 BCE) as the *urban foundation* because it represents the origins of urbanisation, where cities were first shaped by a close relationship between human settlements and their *natural* environments. During this period, though rudimentary, cities demonstrated an essential understanding of the interdependence between humans and the environment. Communities relied on agricultural productivity and local resources, such as water, mudbrick, and stone, sourced in a manner that reinforced ecological harmony. Cities were designed to foster community cohesion, with a clear emphasis on collective well-being. Their relatively small and interconnected populations allowed for an intimate scale of governance and resource distribution, ensuring that the basic needs of all inhabitants were met. Innovations like irrigation systems and using mudbrick or local stone in architecture were functional and deeply integrated into the local ecosystem,

reinforcing sustainability. *Desirable Cities* critically engages with this era by highlighting how these early settlements embodied a delicate *balance* between urban life and the environment. The *natural* focus was also *balanced*, the *cultural* focus was *balanced*, and the *constructural* focus was *balanced*. Consequently, these first cities embraced principles of harmony and adaptability, recognising that the *natural* environment was a vital condition in the creation of urban spaces that supported human flourishing, an exemplar of *holistic* urban development.

Natural: *balanced* | *Cultural*: *balanced* | *Constructural*: *balanced*

4.3.2. Urban expansion: The regionalisation of cities (800 BCE - 1490 CE)

During this era, cities evolved from basic settlements into powerful hubs of empires and trade. Civilisations such as the Mesopotamian, Egyptian, Mauryan, Gupta, Chinese, Greek, Roman, and Aztec placed cities at the heart of governance, economic exchange, and cultural life. More than fulfilling survival needs, urban centres began symbolising civilisation's advancement, leading to remarkable achievements and an intensification of social stratification and environmental transformation (Christian 2000, 1–26; Horden and Purcell 2000, 123–51; Singh 2015, 357–410; Smith 2010, 137–54; Steinhardt 1999, 1–26; Thapar 1997, 94–132; Zanker and Shapiro 1995, 3–22).

Natural environment. As empires expanded, cities increasingly shaped and reconfigured their surrounding ecosystems to serve human ambitions. Newly established or enlarged trade routes, like the Silk Road and Mediterranean shipping lanes, facilitated the movement of goods, animals, and cultural practices over vast distances (Christian 2000, 1–8; Horden and Purcell 2000, 123–40). While these connections brought prosperity, they also placed unprecedented demands on local landscapes, primarily through resource extraction and land conversion (Horden and Purcell 2000, 140–51; Hughes 2014, 65–92). Cities grew dependent on external food and raw materials supplies to sustain their populations, making them vulnerable to political instability, environmental changes, and trade disruptions, examples include Roman Annona and grain shipping from Egypt and North Africa (Erdkamp 2005, 206– 57; Garnsey 1993, 203–42). Technological advancements, such as aqueducts and irrigation systems, underscored this growing human capacity to manipulate the environment (Hodge 1992, 273–332; Jacobsen and Adams 1958, 169–81). Yet, these feats often accelerated ecological depletion when pursued without considering long- term ecosystem balance (Hughes 2014, 93–130; McNeill 2001, 11–38).

Cultural environment. In this phase, cities became emblematic of social complexity and hierarchy. Power was consolidated by political elites, religious leaders, and military officials, who lived in monumental quarters reflecting their elevated status (Finley 1999, 105–36; Smith 2010, 142–49; Zanker and Shapiro 1995, 23–48). Artisans, merchants, and labourers inhabited more modest zones, labouring daily to maintain economic vitality and infrastructure (Laurence 1999, 27–54; Smith 2010, 137–44). Social inequalities thus deepened as some groups benefited from imperial agendas while others were marginalised or economically exploited (Ober 1991, 270– 79; Scheidel and Friesen 2009, 61–91). Urban centres like Rome, Athens, and Chang'an emerged as focal points for governance, commerce, and religious practice, but also manifested rigid stratifications (Favro 1996, 1–15; Steinhardt 1999, 27–49; Thompson and Wycherley 1972, 1–24). Over time, these entrenched hierarchies laid the groundwork for systemic inequities, a dynamic that would resonate in later urban forms (Finley 1999, 137–66; Skinner 1977, 3–31). Despite these disparities, the era also witnessed vibrant civic life: public squares, marketplaces, and ceremonial complexes offered arenas where citizens engaged in social exchange, political debate, and cultural expression (Camp 1990, 53–76; Favro 1996, 121–46; Thompson and Wycherley 1972, 25–62).

Constructural environment. Urban expansion in this period was distinctly reflected in monumental architecture and infrastructural innovations. Structures like Egypt's pyramids, Rome's aqueducts, and the grid planning of Chang'an illustrated a deliberate strategy to project power, maintain order, and facilitate metropolitan growth. Road networks, advanced water management systems, and military fortifications signalled cities' expanding capacity to shape and defend extensive territories. These improvements, however, frequently served hierarchical and imperial aims, prioritising the display of authority and the smooth flow of commercial goods over equitable spatial design. Cultural models diverged: Greek cities highlighted civic participation via public squares (agoras), while the Roman model showcased imperial grandeur through temples, forums and amphitheatres. Chinese city planning emphasised cosmological symmetry, while Mesoamerican urbanism featured ceremonial alignments linked to religion and astronomy. In all cases, however, the *constructural* environment increasingly upholds societal hierarchies and facilitates empire-building.

City model types multiplied and regionalised during this period. The Hippodamian grid (e.g., Miletus/Priene) codified ideals of isonomy and clarity; the Roman castrum propagated a standardised cardo/decumanus grid for colonies and provincial capitals; both are durable templates of ordered land subdivision (Kostof 2018, 55–73; Mazza

2018, 103–12). In East Asia, imperial capitals (e.g., Chang'an) translated cosmology into diagrammatic urban form, with axes, wards, and hierarchies, making the city a legible instrument of rule (Zhu 2018, 121–36). Beyond Eurasia, large-scale ceremonial urban models such as Teotihuacan combined a strict orthogonal grid with apartment compounds and monumental alignments (Cowgill 2015, 1–6; 73–104), while Angkor's hydraulic city integrated dispersed settlements with engineered water landscapes as a metropolitan system (Evans et al. 2013, 12595–98).

Desirable Cities addresses the development of cities in this part of the Classical Antiquity and Middle Ages periods (800 BCE – 1490 CE) as *urban expansion*, because cities expanded in population and complexity, especially within imperial contexts. This marked a critical juncture where the evolution of towns shifted away from harmonious interactions with *natural* ecosystems in a *cultural* drift toward more complex social structures and material-driven urban *constructural* forms. Urban growth increasingly prioritised powerful city stakeholders' ambition, embodied in monumental buildings, imperial structures, and the creation of socially stratified environments, over ecological *balance*. *Desirable Cities* critiques this shift, arguing that as cities expanded, the *cultural* environment started to dominate the strategies of the *constructural* environment, moving away from the ecological *balance* with the *natural* environment, which is essential for urban development.

Natural: moderate-low | *Cultural*: moderate-high (with inequality) | *Constructural*: moderate (at the service of culture)

4.3.3. Urban interconnection: The globalisation of cities (1490 - 1860)

European empires' discovery of the Americas in 1492 led to a new age of global trade, mercantilism, and colonial expansion (Crosby 2003, 3–16; Elliott 2008, 1–24; Magnusson 2003, 7–28; Wallerstein 2011, 67–98). Cities worldwide became increasingly interlinked as trade routes spanned continents, transforming political power, cultural exchange, and urban infrastructure (Braudel 1992, 232–74; De Vries 2008, 32–41; Eltis and Richardson 2010, 18–27; Giraldez 1999, 31–46). While this connectivity propelled unprecedented economic growth and introduced new social classes like the bourgeoisie, (Acemoglu et al. 2005, 546–58; Braudel 1992, 245–68; De Vries 2008, 39–65) it also introduced inequality, exploitation, and materialistic urban development (Eltis 2000, 1–15; Inikori 2002, 19–28; Pomeranz 2000, 107–14; Wallerstein 2011, 229–33).

Natural environment. During this period of rapid expansion, ecological considerations often took a back seat to imperial ambitions (Grove 1996, 3–12; Richards 2003, 403–12). Colonial enterprises extracted vast quantities of raw materials from distant territories, draining forests, mines, and arable lands with little regard for environmental consequences (Crosby 2003, 64–121; Melville 1997, 37–60; Williams 2010, 209–44). Metropoles like London, Lisbon, and Seville flourished on resources and wealth drawn from colonised regions (Braudel 1992, 157–96; Elliott 2008, 47–75). Still, these flows contributed to an imbalance: local ecosystems were overburdened by the need to supply raw materials and food for growing urban populations (O'Brien 1982, 1–7; Wallerstein 2011, 347–55). Technological innovations, ranging from improved ships to advanced road and canal networks, further facilitated the movement of goods and magnified the human environmental footprint (Bogart 2009, 451–72; Braudel 1992, 90–101; Pacey 2001, 153–75). Despite scattered attempts at sustainable resource use or aesthetic greening, ecological harmony was rarely a driving motive in city planning at the time (Grove 1996, 73–82; Richards 2003, 416–23).

Cultural environment. Cities in this period attracted a diverse cross-section of people and culture, from rural migrants to foreign traders, intensifying social stratification (Bairoch 1991, 151–64; De Vries 2008, 58–69). The rise of the merchant class reshaped local economies, creating a new urban elite alongside the older nobility and clergy (Braudel 1992, 227–60; De Vries 2008, 58–69). However, the benefits of urban growth remained unevenly distributed, as overcrowded housing, poverty, and disease were widespread among lower-income and enslaved populations (De Vries 2013, 231–40; Eltis 2000, 85–101; Nunn and Qian 2010, 163–72). The contrast between the opulence of Baroque redesigns and the dire conditions of the urban poor underscored this inequality (Benevolo 1980, 204–29; Borsay 2002, 93–117; Kostof 1991, 194–205). While an emerging middle class could influence politics and culture, many inhabitants still lacked fundamental rights (Hibbert 1980, 92–118; Najemy 2006, 368–72). Monarchs and church authorities often used urban improvements, street lighting, ceremonial squares, and grand boulevards to project power rather than address systemic social injustices (DeJean 2015, 131–59; Kostof 1991, 182–211; Schivelbusch 1995, 23–31). Commerce, religion, and imperial administration continued to reinforce deep class and status divides.

Constructural environment. The built landscape of Early-Modern cities reflected both monumental ambitions and the demands of expanding trade. European capitals adopted new materials, like brick, stone, and cast iron, for constructing large public buildings, paved streets, and fortified walls (Curl 2007, 125–41; Labrouste et al. 2012, 44–65;

Mumford 1961, 331–56). Cities like Paris and Rome underwent Baroque redesigns, incorporating dramatic boulevards and monumental buildings symbolising monarchical or ecclesiastical authority (Benevolo 1980, 217–29; DeJean 2015, 101– 39; Kostof 1991, 190–211). Elsewhere, colonial city models imposed European architectural and planning norms onto diverse landscapes like Kingston in Jamaica, Cape Town in South Africa, and Kolkata in India, creating uniform administrative hubs for resource extraction and governance (Chattopadhyay 2015, 25–46; Clarke 1975, 13–31; King 1976, 1–34; Mundigo and Crouch 1977, 247–68; Crouch and Mundigo 1977, 397–414; Worden et al. 1998, 37–61). While these innovations often improved infrastructural functionality through street lighting, sanitation measures, and efficient layouts, they generally enhanced economic profitability. They demonstrated imperial might rather than promoting equitable community development or preserving natural balances (Hamlin 1998, 42–66; Rosen 1993, 145–72; Schivelbusch 1995, 27–45).

This period standardised and exported city models across continents. The Spanish "*Laws of the Indies*" specified a rectilinear grid, with a main square "*plaza mayor*", and civic/religious programme for new towns, applied from the Americas to the Philippines, in an early codified template of transoceanic planning (Mundigo and Crouch 1977, 247–68). In Europe, the baroque "*grand manner*" and capital projects (long axes with scenography nodes) reframed capitals as theatres of sovereignty, while colonial port-forts and administrative capitals (e.g., Cape Town, Kolkata, Manila) replicated European diagrammatic orders in African and Asian geographies.

Desirable Cities addresses this part of the Early-Modern period (1490 – 1860) as *urban interconnection* by highlighting the European Empires' dominance on city developments worldwide, interconnecting cities and urban practices within all the continents, but it also critically highlights the disconnect between the increasing complexity and materialism of cities and the degradation of the environment and social equality. During this time, the *cultural* drift of urban development moved from focusing on harmony with the *natural* environment and the flourishing of civic life to prioritising materiality: function and form of the *constructural* environment. The exploitation of colonised lands and peoples was justified through moral and religious frameworks, and urban spaces began to reflect the unequal distribution of wealth and power from the economic developments. The resulting social stratification and the commodification of urban life underscore the need and desire for a re-evaluation of these historical trajectories, beyond just economic and political goals.

Natural: low | *Cultural*: high (with inequality) | *Constructural*: high (at the service of culture)

4.3.4. Urban revolution: The industrialisation of cities (1860 – 1980)

The Industrial Revolution fundamentally reconfigured urban life by introducing factories, railways, and mass housing to cities, resulting in exponential growth in both population and size (Hobsbawm and Wrigley 1999, 9–68; Hohenberg and Lees 2009, 229–61; Wrigley 2010, 105–31). Accelerated production methods and groundbreaking technologies shaped modern urban forms, prioritising economic growth over ecological balance and social well-being (Malm 2016, 131–75; McNeill 2001, 43–67; Smil 2017, 173–97). This era witnessed the emergence of powerful industrial centres, new social structures, and technological marvels such as underground trains, transforming cities into engines of wealth generation while also becoming breeding grounds for pollution and inequality (Hobsbawm and Wrigley 1999, 203–20).

Natural environment. Environmental considerations were primarily set aside during industrial expansion, as the pressing agenda was to boost production capacity and economic returns (Smil 2017, 173–97; Wrigley 2010, 114–21). Mass deforestation, the extraction of natural resources like coal and steel, and the unchecked discharge of pollutants into the air and waterways contributed to an alarming decline in ecological health (Brimblecombe 2012, 123–45; McNeill 2001, 47– 54; Tarr 1996, 103–41). Public green spaces waned as cities sprawled outward, while smog and waste accumulation reflected the minimal concern for environmental protection (Brimblecombe 2012, 146–73; Halliday 2023, 146–72; LeGates and Stout 2011, 12–39). Though some urban planners eventually considered sanitation and public health, these measures did little to restore ecological harmony on a broader scale. (Chadwick 1842, 1–20; Melosi 2008, 3–15). The Earth's ecosystems thus suffered severe damage, mainly through rising carbon emissions, and the demands of industrial output overshadowed the idea of ecological equilibrium (Malm 2016, 343– 72; Wrigley 2010, 114–21).

Cultural environment. The population surge in industrial cities was fuelled by rural-to-urban migration in search of work, leading to densely packed working-class neighbourhoods plagued by overcrowding and insufficient infrastructure (Engels 2009, 67–103; Hohenberg and Lees 2009, 229–61; Mayhew 2012, 167–85). While factory owners and the growing middle class prospered, lower segments of society endured

lower living conditions, highlighting a deepening social divide (Hobsbawm and Wrigley 1999, 203–10; Wohl 1983, 5–32). The contrast between wealth and poverty grew as suburbs developed for those seeking distance from polluted centres (Fishman 2008, 155–81; Hohenberg and Lees 2009, 264–72). Although various urban reforms, such as public health regulations, positively impacted daily life, social inequality remained dominant, entrenched by exploitative labour practices and the concentration of wealth in the hands of industrial elites. This era underscored how economic priorities frequently overrode any serious commitment to equitable urban welfare (Hobsbawm and Wrigley 1999, 208–20; Wohl 1983, 309–45).

Constructural environment. Technological feats such as steel-frame construction, reinforced concrete, and glass curtain walls revolutionised architecture, enabling the rise of skyscrapers and complex infrastructure (Collins 2004, 19–75; Frampton 2018, 53–101; Willis 2004, 19–55). Rapid road expansion accommodated the burgeoning popularity of automobiles, contributing to sprawling metropolitan areas (Norton 2008, 15–38). Public transport systems like the Tube in London, the Metro in Paris, and the Subway in New York helped manage crowd movement, but often overlooked the environmental integrity (Cudahy 1995, 1–15; Ovenden 2004, 12–25; Schivelbusch 2014, 33–54). Urban models proposed during this period, such as Haussmann's Parisian renovation, Cerdà's Barcelona plan, and Ebenezer Howard's *Garden City*, pursued varying balances between efficiency, aesthetics, and liveability (Busquets 2005, 124–45; Cerdá 2018, 329–45; Howard and Osborn 2001, 12–25; Jordan 1995, 180–211; Pinkney 2019, 155–91). Yet, despite their innovations, the global development of cities continues to neglect *holistic* ecological and social needs (Frampton 2018, 132–39; Hall 2014, 90–117).

Therefore, these city models reflected and showed the problematic urban results of this era and their desire to develop a balance of industrial efficiency with urban welfare. Haussmann's renovation of Paris (1853–1870) aimed at modernising the city's infrastructure while promoting aesthetic grandeur (Halliday 2023, 146–72; Jordan 1995, 180–211; Pinkney 2019, 155–91). Cerdà's Plan for Barcelona (1860s), on the other hand, introduced a grid-based urban layout that prioritised public health through improved ventilation and sunlight, reflecting a more pragmatic approach to urban planning (Busquets 2005, 132–45; Cerdá 2018, 329–45). The *Linear City* model proposed by Arturo Soria y Mata (1882) envisioned a linear urban form designed around transportation corridors, aiming for greater efficiency (Hall 2014, 100–104). Meanwhile, Ebenezer Howard's *Garden City* (1898) advocated for a self-contained community combining urban and rural elements to alleviate overcrowding (Hall 2014, 96–117; Howard 1902, 12–25). Similarly,

Tony Garnier's *Industrial City* (1917) suggested a functional zoning system for industrial production and modern living (Wiebenson 1969, 80–96). Each model, while innovative in its own right, reflected the tension between modern cities and the *natural* and *cultural* environment, which often neglected the ecological equilibrium with the Earth's ecosystem and the social well- being of people in favour of material progress (Frampton 2018, 86–101; Hall 2014, 90–117).

Desirable Cities addresses this particular part of the Mid-Modern period, between the invention of the Underground and the invention of the Internet (1860 – 1980, respectively), as *urban revolution*. *Desirable Cities* critically examines how urban development during this time was driven by materialistic goals that left ecological equilibrium and social equality in the background. If the previous period (*urban interconnection*) significantly lost the balance between the *natural* and the *cultural* environment, this new period consolidated that loss of the ecological *balance*, developing new problems within the *cultural* environment. This severe deterioration of the *natural* environment encouraged new theoretical propositions trying to provide better city development. Still, none of these propositions managed to substitute the *modern* city model focused on the materiality of its urban and economic growth.

Natural: minimum | *Cultural*: dominant (with dominant inequality) | *Constructural*: dominant (at the service of the economy)

4.3.5. Urban innovation: The digitalisation of cities (1980 – present)

From 1980 to the present, the emergence of the internet and rapid digital technologies triggered a dramatic shift in urban development. Global economic integration and emphasis on technological data solutions brought about new modes of governance, financial frameworks, and societal organisation (Neirotti et al. 2014, 25–29; Kitchin 2014, 1–4). Yet this period also witnessed urban sprawl, pollution, and deepening social inequality as cities prioritised physical growth and digital sophistication over ecological protection and equitable well-being (Lees et al. 2008, 1–18; Seto et al. 2012, 16083–86; Un Environment 2019, 1–10).

Natural environment. During this phase, urban expansion and techno-centric ambitions further eroded ecological balance. While some cities embraced green initiatives, the global drive for industrial and post-industrial scale economies undercut widespread environmental responsibility (De Jong et al. 2015, 25–30; Joss 2011, 268–

76). Heightened carbon emissions, resource overuse, and unchecked urban sprawl led to pronounced degradation of natural ecosystems (Creutzig et al. 2015, 6284–86; Seto et al. 2012, 16084–86). Even though the Eco-City model and other sustainable designs gained traction in select locales, these initiatives often remained overshadowed by broader trends in global capitalism that privileged economic gain over robust ecological safeguards (Joss 2011, 277–82; De Jong et al. 2015, 31–35; Un Environment 2019, 470–83).

Cultural environment. Riding the tides of globalisation, digital innovation, and service-based economies, cities like New York, London, and Hong Kong became high-profile finance, technology, and culture hubs (Sassen 2013, 78–85). Yet, this influx of investment intensified social inequalities: gentrification displaced long-standing communities, and informal settlements continued to grow in regions unable to absorb capital-driven transformations (Florida 2005, 95–102; Sassen 2013, 78–85). Despite new employment opportunities and enhanced urban services, the gains often accrued to wealthier or better-educated populations, leaving marginalised groups further behind. The digital divide magnified these disparities, where access to internet-based services and benefits was not uniformly distributed, thus extending pre-existing inequalities into the virtual realm as well (Norris 2008, 3–10; Warschauer 2004, 1–11).

Constructural environment. Technological progress spurred the emergence of the *Smart City* model, whereby sensor networks, AI-powered systems, and data analytics sought to optimise resources, energy consumption, and overall urban functioning (Neirotti et al. 2014, 121–28). Cities like Singapore and Barcelona deployed digital infrastructure to streamline transport, public services, and utility management. Nonetheless, even these success stories demonstrated that material progress, like skyscrapers, sprawling commercial zones, or networked digital grids, was often harnessed to reinforce economic priorities at the expense of *holistic* development. While models such as *New Urbanism* and the *Compact City* strategy strove to enhance liveability through walkability and dense land use, the dominant reality in many metropolises focused on rapid growth and profit, overshadowing consistent efforts at balancing social inclusion and ecological harmony (Hollands 2008, 306–14; Kitchin 2014, 818–25; Shelton et al. 2015, 10–21).

Since 1980, "*innovation*" has yielded a family of prescriptive city models. *Smart City* programs instrumentalize *sensor management* and *Big Data* platforms (Caragliu et al. 2011, 65–82; Neirotti et al. 2014, 25–36); eco-city agendas (and their critiques) formalised ecological targets as urban form (Joss et al. 2011, 268–85); transit-oriented

development and *Compact City* approaches densify and mix uses around high-capacity transit; *New Urbanism* foregrounds walkable public realms; the *15-minute City* reframes proximity as a planning invariant (Moreno et al. 2021, 93– 100); and *Sponge City* concepts integrate distributed blue-green infrastructure into metropolitan hydrology control (Li et al. 2017).

Desirable Cities addresses this post-modern period of urban development as *urban innovation* and critically highlights the unfixed problem dragged from previous periods of the disconnection between cities and the *natural* ecosystem *balance* and social well-being. While this period's technological and infrastructural advancements offered significant improvements in urban efficiency and resilience, they could still not provide a *holistic* approach. The focus on function and form remains today, prioritising technological sophistication and material growth. The rapid expansion of cities following old urban paradigms has led to environmental degradation and exacerbated social inequalities, as the benefits of urban innovation have been unevenly distributed.

Natural: minimum - low | *Cultural*: dominant (with dominant inequality) | *Constructural*: dominant - high (at the service of the economy)

4.3.6. Urban revisioning: Conclusions for *Desirable Cities*' positioning

Despite the remarkable innovations and growth achieved throughout history, the traditional materialistic approach to urban development, which focuses on function and form, reveals clear limitations in sustaining ecological *balance*, social well-being, and equal development. The review of urban historical periods reveals a pattern: as cities prioritised economic and technological gains, they often did so by undervaluing ecological *balance* and social health. Today's urban challenges, including climate change, social inequality, and unsatisfied city stakeholders, are, in many ways, a cumulative result of this imbalance in cities' *cultural drift* driven by materialism.

There is a growing recognition among scholars and practitioners that a new paradigm is needed to refocus city development on a more wanted (*desirable*) *balanced* approach. For example, scholars argue for a shift from conventional mobility- based planning to accessibility-focused strategies (Filippi 2022, 2–6; Litman 2013, 5– 28). This new paradigm must emphasise ecological urban planning, integrating concepts such as ecosystem services, socio-ecological systems, and green infrastructure (Ostrom 2009, 419–20; Tzoulas et al. 2007, 168–70). Regenerative development is proposed

as an integrative platform for landscape sustainability (Gibbons et al. 2018, 1–5). Some researchers advocate for a transdisciplinary approach to urban planning, viewing cities as complex "*urban organisms*" (Grifoni et al. 2012, 47–50), while some call for a "*guided organic growth*" approach in new city development (Elhanafy 2023, 1–4). Nevertheless, these implementations remained insufficient to reverse the current urban problems

The research gap identified here is the lack of an *interdisciplinary*, *balanced*, and *holistic* approach to the *natural*, *cultural* and *constructural* environment within city development. Past approaches have tended to be isolated: engineers build transportation networks for efficiency, economists plan for growth, and sociologists and environmentalists are consulted as an afterthought. What's missing is an integrative framework that aligns technological innovation and economic development with environmental sustainability and equal social well-being from the outset. In other words, the gap is between material progress and *holistic* progress.

Desirable Cities proposes Magnaghi's theoretical framework as a suitable response to address this gap. Magnaghi highlights the equilibrium that must exist between the "*Natural*", "*Built*", and "*Anthropic*" environments (Magnaghi 2011, 92). However, the city stakeholders' short-term desires and aspirations contribute to the current misalignments for improvements. The *natural* focus addresses the ecological balance. The built or *constructural* environment focuses on people's physical interventions. The anthropic focus is on all kinds of people's *cultural* developments, including desires and aspirations. Each of these three categories of the environment must interact in harmony with the other two. This theory offers a roadmap for a more *holistic* approach to city development, where the circulation of "*matter, energy*", "*information*", and "*meanings*" is also fundamental between the three types of environments (Zarate 2011, 11). Thus, *Desirable Cities* proposes to address this research gap by implementing measurements for evaluating the *natural*, *cultural* and *constructural* environment into a new paradigm of urban studies and city development, encouraging urban development that consciously addresses (A) Earth's ecosystem balance and its relationship with people's biological balance, or in other words, the *natural* environment in relation with the *cultural* environment, (B) *cultural* developments such as belief, policy, economics, and emotions, in its relationship with the *constructural* and *natural* environment, and (C) *constructural* environments where the materiality is also an essential part of the consideration but without ignoring the *natural* and *cultural* environments. All this is done by paying attention to the circulation of sources, energy, information and meanings, where *desirability* emerges as a *holistic* endeavour. This approach ensures that cities are places of functional efficiency and aesthetic appeal

where human connections, cultural identities, and ecological sustainability are all in *holistic* harmony.

Below is a concise table reflecting the evolution of cities throughout the five historical periods discussed in this section. Each row corresponds to one of the periods, and each column represents one of the three core dimensions (*natural*, *cultural*, and *constructural*) outlined by *Desirable Cities*. The table assigns an ordinal classification to each dimension, highlighting how urban development shifted over time. In the earliest phase, all three focuses remained *balanced*, while later epochs saw a growing emphasis on social hierarchies and material growth, often at the expense of ecological stability and social equality. *Table 02*: *Historical urban priorities* encapsulates the "problematic approach" of historical urban development, underlining the increasing imbalance that *Desirable Cities* aims to address.

Table 02
Historical urban priorities

	Earth's sustainability (Natural)	***Social well-being (Cultural)***	***Effective function & form (Constructural)***
Urban foundation	Balanced	Balanced	Balanced
Urban expansion	Moderately Low	Moderately High (with inequality)	Moderate (at the service of *culture*)
Urban interconnection	Low	High (with inequality)	High (at the service of *culture*)
Urban revolution	Minimum	Dominant (with high inequality)	Dominant (at the service of economics)
Urban innovation	Minimum Low	Dominant (with high inequality)	Dominant High (at the service of economics)

This schematic overview further illustrates how urban priorities, policies, and practices became increasingly misaligned with *natural* ecosystems and socio-spatial equity. It provides a framework for understanding why modern city development, rooted in materiality, demands a renewed focus on ecological equilibrium and human well-being for future urban studies and city development.

Methodologically, this review legitimates the *Desirable Cities* paradigm: *Pragmaticism*, by moving from historical abduction (pattern detection across *natural*, *cultural*, and *constructural* environments) to operational hypotheses and ordinal measures that can be tested in urban contexts. This aligns with Peirce's *Pragmaticism* maxim of clarifying concepts by their practical bearings (Peirce 1960d, 388–410). The triadic environmental

lens grounded in Magnaghi's framework already instantiates this move from interpretive synthesis to testable guidance. The doctrinal claim of *Desirable Cities*, that desirability emerges where ecological reciprocity, socio-cultural well-being, and constructural competence are jointly optimized, is thus both historically motivated and epistemically justified, as it yields operational criteria and protocols that can be subjected to empirical trial (e.g. observational traces and attention/emotion proxies in public space), closing the loop between theory, measurement, and design applications.

4.4. The redeemable alternative movement to traditional city development: A concise account of *Desirable Cities*' preliminary analysis of alternative positive propositions for urban development

Desirable Cities' study of alternative movements to traditional urban development highlights a key issue: while alternative movements to traditional cities' development have successfully integrated complementary knowledge and methodologies to urban studies, their often-small scale of influence kept these positive developments isolated and fragmented. Although these movements offer promising frameworks for a more sustainable and equitable urban future, they have not yet been consolidated into a unified, *holistic* approach within the mainstream city development paradigm. As a result, the positive advancements they champion often remain marginal, failing to challenge the materialistic approach that dominates traditional city development.

Urban environments are inherently complex and shaped by many interconnected systems, such as ecological, socio-political, socio-economical, socio- cultural, architectural, construction, transport, information, etc. To engage meaningfully with this complexity, an *interdisciplinary* approach is crucial. This is precisely the gap *Desirable Cities* aims to fill in the theoretical framework by integrating and synthesising the contributions of multiple fields like philosophy, ecology, geography, biology, sociology, psychology, semiotics and economics to create a genuinely cohesive and *holistic* cities' development framework within the *Pragmaticism* paradigm. Through historical analysis, various alternative movements emerge advocating for a specific aspect of positive urban development, whether ecological sustainability, social equity or information efficiency; these movements aimed to improve city development.

Desirable Cities' analysis of these alternative urban movements highlights their goals, including their complementary know-how, while pointing out the critical *interdisciplinary* gaps restraining their *holistic* development. The movements explored

below are addressed as *embracing sustainability*, *biotechnology*, *city marketing*, *data analysis*, *social community*, *spatial emotions*, and *affordance*. These illustrate alternative complementary ways of developing cities, each contributing a vital aspect that can improve the urban future. Yet, as this study demonstrates, none of these movements has fully succeeded in bridging the different elements of urban life that need to be addressed collectively.

4.4.1. Embracing sustainability

The contemporary sustainability movement marked a decisive turn from growth-at-all-costs toward balancing ecological integrity with economic and social aims, formalised by the Brundtland Commission's now-canonical definition and its insistence on intergenerational equity (Brundtland and U.N. General Assembly 2009, 40–41; Girardet 2008). Urbanists developed practice-oriented frames to realise this shift: Beatley's "*green urbanism*" distilled actionable principles, compactness, biophilic structure, and closed-loop metabolisms explicitly tailored to city making (Beatley 2000, 3–8). At the same time, planning theorists cautioned that sustainability is inherently conflictual: environmental protection, economic development, and social equity form a "*planner's triangle*" of tensions that cannot be harmonised by rhetoric alone (Campbell 1996, 296–300). Syntheses in sustainability science similarly document the plurality (and contestation) of goals and indicators that urban policy must reconcile, amplifying the need to specify trade-offs rather than subsuming them under a single banner (Kates et al. 2005, 8–10, 13–15).

Eco-districts exemplify this applied sustainability turn. Stockholm's Hammarby Sjöstad, redeveloped from an industrial waterfront, uses an integrated "*Hammarby Model*" to connect energy, water, and waste systems, monitored by an Environmental Load Profile (ELP) tool that quantifies life-cycle impacts across scales (Suzuki et al. 2012, 4–7). Early evaluations report substantive environmental gains compared with a reference scenario: reductions in non-renewable energy use (28–42%), water use (41–46%), and global warming potential (29–37%) when the model is implemented programmatically (Suzuki et al. 2012, 7). Academic case studies corroborate the district's systems integration logic and its role as a demonstration project for sustainable urban infrastructure (Pandis Iverot and Brandt 2011, 1043–46, 1058–62). Conceptually, the emphasis on circularity and resource minimisation aligns with the circular economy literature, which frames urban metabolisms as regenerative systems that reduce emissions and leakage while maintaining function (Geissdoerfer et al. 2017, 759–61).

Yet, critics warn that environmental success can obscure the social content of sustainability if equity, participation, and everyday well-being are not intentionally designed and measured. A large review of "*urban social sustainability*" delineates two core strands: equitable access and the sustainability of communities themselves, arguing that urban form and environmental performance alone do not deliver social outcomes (Dempsey et al. 2011, 289–93, 299). Vallance, Perkins, and Dixon sharpen this by distinguishing "*developmental*", "*maintenance*", and "*transformational*" social sustainability, showing how well-meant programs can miss cultural needs and lived attachments (Vallance et al. 2011, 345). In practice, sustainability agendas can drift toward "*sustainability as density*", valorising compactness while excluding affordability, inclusion, or cultural fit (Quastel et al. 2012, 1057–62). Governance research likewise finds that while cities have multiplied climate and sustainability plans, cross-city comparability is weak, and there are *few* robust evaluations of effectiveness and gaps that particularly affect social outcomes (Bulkeley and Betsill 2005, 45–49; Seto et al. 2014, 6, 54).

For the built (*constructural*) city, the sustainability agenda has unquestionably advanced energy efficient buildings, transit, and urban form. Early cross-city evidence linked lower fuel use to less auto dependence and supportive land use/transport systems (Newman and Kenworthy 1989, 24–26). However, the broader politics of "*cities as planetary saviours*" has been critiqued for over signifying urban mitigation potential while under specifying the institutional work needed to integrate social justice into design and delivery (Angelo and Wachsmuth 2020, 2203–8). Taken together, these literatures support that sustainable initiatives are strongest where environmental metrics and constructural systems can be specified and verified, but they remain contingent in the cultural (equity and emotional) realm unless governed for co- production, distributional justice, and long term social protection (Bulkeley and Betsill 2005, 58–61; Seto et al. 2014, 46, 54). This aligns with the *Desirable Cities*' lens that weighs *natural*, *cultural*, and *constructural* performance as distinct but interdependent dimensions.

Based on the *Desirable Cities*' framework, sustainability initiatives excel at safeguarding the *natural* dimension, offering moderate to high ecological benefits through measures like renewable power, circular resource use, and reduced pollution. However, these efforts may overlook social equity or emotional well-being, ranking Low to Moderate on the *cultural* dimension unless complemented by explicit community-oriented strategies. Regarding the *constructural* environment, sustainable planning practices, such as energy efficient housing, LEED certifications, and green transit networks, deliver High functional and ecological outcomes. Consequently, sustainability proves instrumental

in shifting urban priorities towards long term environmental health, yet its full potential remains untapped without more significant emphasis on inclusive design and community engagement.

Natural: Moderate to High | *Cultural*: Low to Moderate | *Constructural*: Moderate to High

4.4.2. Embracing biotechnology

Biotechnology in urbanism reframes buildings as metabolically active systems that partner with living processes rather than merely enclosing them. Early programmatic proposals, like protocell-based envelopes for carbonate deposition, microbial energy ecologies, and bio reactive skins, sketched a design imaginary in which "*living*" infrastructures would: remediate, fuel, and sense the city (Armstrong and Spiller 2010, 916–18; Armstrong 2023, 1112–17). On the experiential and tectonic side, Beesley's Hylozoic work demonstrates how responsive, sensor movable lattices can scaffold biochemical exchange and public affect, foreshadowing architectures that breathe, filter, and "*learn*" (Beesley 2016, 2–3). Design-practice syntheses have translated these ideas into urban prototypes, from Fab Tree Hab's cultivated structures to resilient, bio-driven districts, arguing that bio design can be simultaneously ecological and constructural inventive (Joachim and Aiolova 2019, 8–13). Together, these strands situate biotechnology as a distinct movement within alternative urbanisms: empirically oriented, materially experimental, and planned toward coupling design with metabolism (Armstrong and Spiller 2010, 916–18; Beesley 2016, 2–3; Joachim and Aiolova 2019, 8–13).

Across application domains, evidence now shows measurable environmental and constructural payoffs. Closed-loop photobioreactor facades can shade, insulate, and generate biomass while sequestering operational CO_2, with reported energy use reductions and quantified capture rates under optimized conditions (Sedighi et al. 2023, 1–3, 12–14). Engineered ecologies such as constructed wetlands reliably remove nutrients and pollutants with low energy inputs, offering urban waste water treatment that doubles as biodiversity infrastructure (Vymazal 2010, 530–35, 540–47). At the material scale, bacteria based, self-healing concretes precipitate calcite in cracks ≤0.8 mm, improving durability and life cycle performance (Wiktor and Jonkers 2011, 763–68). Mycelium based composites, grown on agro-waste, provide light, insulative, low energy panels and blocks, expanding the range of biofabricated building components (Jones et al. 2017, 241–51). These lines of inquiry substantiate that biotech excels in the *natural*

and *constructural* dimensions by coupling resource conservation with adaptive, novel assemblies (Jones et al. 2017, 246–51; Sedighi et al. 2023, 2–3; Vymazal 2010, 540–47; Wiktor and Jonkers 2011, 763–68).

Yet delivery constraints persist at scale. Algal facades demand continuous balancing of light, CO_2, nutrients, and hydrodynamics; the literature notes high capital costs, contamination risk, cleaning burdens, and uncertain long term return of investment, particularly in housing (Sedighi et al. 2023, 14–16, 18–19). Self-healing concretes depend on crack width, water ingress, and bacterial viability; protection, dosing, and curing regimes remain sensitive devices for performance (Wiktor and Jonkers 2011, 765–69). For bio-composites, supply chain consistency, moisture response, and standardisation of strength/flammability metrics still limit mainstream adoption despite promising acoustic and thermal profiles (Jones et al. 2017, 248–56). More broadly, proponents argue that a mature "*living architecture*" will require governance and maintenance protocols appropriate to semi-autonomous, evolving systems rather than static components (Armstrong 2023, 1125–29). These constraints explain why constructural successes have not yet yielded city wide transformations.

Integrating biotechnology with urban equity is not automatic. Science and Technologies Studies (STS scholarship cautions that technoscientific futures carry "*sociotechnical imaginaries*" that can privilege particular publics if not reflexively governed (Jasanoff and Kim 2015, 1–33). Empirical urban studies likewise show how high profile "*green*" innovations may catalyse green gentrification unless paired with anti-displacement and access policies (Gould and Lewis 2016, 1–22). Current algae building reviews underline cost barriers and thin longitudinal evidence, reinforcing the warning that *cultural* outcomes lag without inclusive design, affordability, and community coproduction (Sedighi et al. 2023, 18–19). Therefore, biotechnology's notable ecological and structural advances need coupling to participatory delivery models and distributive policy to realise cultural legitimacy and broad uptake (Gould and Lewis 2016, 15–22; Jasanoff and Kim 2015, 1–7).

Based on the *Desirable Cities*' framework, biotechnological solutions innovate in the *natural* dimension by using bio-reactive materials and living organisms, delivering environmental benefits such as carbon sequestration and resource conservation. They often achieve High ratings in the *constructural* dimension by pioneering novel structures and adaptive designs. Nevertheless, *cultural* dimensions can be overlooked if these technologies remain inaccessible or prohibitively expensive, preventing widespread

community adoption. As a result, biotechnology's promise of greener, more responsive cities must also address equity and inclusivity to realise its full urban impact.

Natural: High | *Cultural*: Low to Moderate | *Constructural*: High

4.4.3. Embracing city marketing

As urban governance shifted from welfare managerialism to entrepreneurial competition, cities embraced branding logics to differentiate themselves, a turn that reframed marketing as a strategic tool of urban development rather than mere promotion (Harvey 1989, 3–6; Kavaratzis 2004, 66–69). Kavaratzis' framework distinguishes three scales: primary (policies and projects), secondary (city's communication), and tertiary (word-of-mouth communications). This helps explain why emblematic campaigns such as "*I Amsterdam*" and "*OnlyLyon*" couple visual identities with investments and governance reforms (Hospers 2004, 271–75; Kavaratzis 2004, 66–71). At the field level, systematic reviews also note the domain's rapid growth but fragmented theoretical base, reinforcing the need to connect branding to wider planning and policy debates (Lucarelli and Berg 2011, 9–13). Together, these accounts situate city marketing as an extended running response to interurban competition that seeks to stabilise meaning and mobilise resources through orchestrated identity narratives (Harvey 1989, 8–14; Kavaratzis 2004, 66–71).

On the ground, branding ambitions often materialise as flagship architecture, cultural districts, and mega-events that translate slogans into space and spectacle, an approach Evans terms "*hard-branding*" (Evans 2003, 417–20; 431–35). While such strategies can catalyse urban revitalisation and public-realm upgrades, they also insert cities into global circuits of aesthetic competition, risking homogenisation as forms and experiences converge across places (Evans 2003, 436–39; Kavaratzis 2004, 70–71). Zukin shows how pursuing "*authenticity*" becomes a consumable amenity that enhances symbolic capital but can displace long standing communities and informal cultures (Zukin 2010, 5–7; 24–26). In short, branding shapes the *constructural* environment of cities as much as its image: it can deliver memorable public spaces and mobility totem-projects, yet it frequently privileges marketable visibility over everyday affordability and inclusivity (Evans 2003, 437–40; Zukin 2010, 24–26).

Critiques further question distributional outcomes. Creative class-oriented branding narrows policy attention to attracting "*talent*", often sidelining social protection and

redistributive goals and contributing to uneven development (Peck 2005, 740–43; 756–60). Place brands are inherently selective projects that elevate certain narratives and silence others, thereby layering spatial identities in ways that can marginalise residents who do not align with the curated image (Boisen et al. 2011, 135–39; 142–45). Even sympathetic accounts caution that unchecked branding practice tends toward "sameness," weakening distinctiveness while reinforcing exclusionary consumption geographies unless counterbalanced by equity focused policy (Kavaratzis 2004, 70–71; Lucarelli and Berg 2011, 15–20). These critiques help explain why campaigns like "*I Amsterdam*" or "*OnlyLyon*" may boost visitation and investment yet struggle to redress deep seated inequalities or meet emotional needs that arise from housing stress, precarity, and cultural displacement (Peck 2005, 760– 66).

Therefore, recent scholarship reframes branding as a governance process that must be co-created with residents to avoid elite capture and realise broader public value. Empirical research finds stakeholder involvement improves brand clarity and effectiveness, underscoring the importance of considering the human dimension and implementation (Klijn et al. 2012, 499-505: 513-516). Conceptually, participatory place branding treats brands as emergent from ongoing interactions, not fixed associations, making space for multiple identities and contested meanings (Kavaratzis and Kalandides 2015, 1369–76). Residents' roles as co-producers, ambassadors, and citizens are central to legitimacy; without this, branding risks instrumentalising culture while neglecting everyday attachments and emotional well-being (Braun et al. 2013, 18–24). In practice, aligning campaigns with inclusive governance offers a pathway to retain the communicative benefits of city marketing while advancing social equity and cultural pluralism that brand-led flagships alone rarely deliver (Kavaratzis and Kalandides 2015, 1376–78).

Based on the *Desirable Cities*' framework, city marketing tends to have a Minimal to Low impact on the *natural* dimension, rarely prioritising ecological goals in brand campaigns. In the *cultural* dimension, it can be Moderate to High, offering a sense of local identity and community pride but risking exclusion if economic benefits accrue only to privileged groups. Meanwhile, its influence on the *constructural* environment is Moderate to High, as marketing strategies can inspire landmark architecture and revitalised public spaces, although often guided by profit motives rather than broader sustainability or equity objectives.

Natural: Minimal to Low | *Cultural*: Moderate to High | *Constructural*: High

4.4.4. Embracing data analysis

Urban Data-driven urbanism reframes planning as an empirical, real-time enterprise that relies on large observational datasets, sensor networks and advanced analytics to diagnose urban problems and target interventions. In the "*smart urbanism*" or "*smart cities*" literature, instrumentation of infrastructures is said to enable continuous situation awareness and performance optimisation across transport, utilities and public services (Kitchin 2014, 1–4). At the same time, quantitative regularities such as urban scaling laws suggest that socioeconomic outputs predictably increase with city size, promising evidence based policy benchmarks (Bettencourt et al. 2007, 7301–3). A parallel strand draws on volunteered geographic information (VGI) to treat residents as "*citizen sensors*", expanding spatial knowledge beyond official statistics (Goodchild 2007, 211–13). Together, these strands have made data analysis a visible alternative to intuition led planning, foregrounding measurement, iteration and comparability across places (Bettencourt et al. 2007, 7303–4; Goodchild 2007, 214–18; Kitchin 2014, 5–6).

In practice, data analysis has been most transformative in mobility and operations. High-frequency traces from mobile phones and smart cards uncover stable, path dependent patterns in daily travel that planners can leverage for transit scheduling, crowd management and epidemic preparedness (González et al. 2008, 779–82). Streaming platforms and dashboards then translate these dynamics into actionable signals for agencies; the paradigmatic "*real time city*" (Kitchin 2014, 6–10). VGI and administrative exhaust, e.g., 311 calls, extend this to street level asset management, sharpening the spatial allocation of repair crews and cleaning services while feeding back new ground-truth for models (Goodchild 2007, 216–19). These contributions have clearly enhanced the constructural capacity of cities to coordinate complex networks and to fine tune resource flows under uncertainty (González et al. 2008, 781–82; Goodchild 2007, 219–21; Kitchin 2014, 10–12).

Yet the turn to *big data* has also exposed epistemic and operational pitfalls. The well-known failure of Google Flu Trends illustrates model drift, opacity and overfitting, or what Lazer et al. term "*big data hubris*", and warns against displacing theory, survey data and domain expertise (Lazer et al. 2014, 1203–5). Critical urbanists further show that smart city projects often naturalise techno-managerial agendas while reproducing uneven development; the "*actually existing smart city*" is embedded in specific political economies rather than neutral optimisation (Shelton et al. 2015, 14–19). Even where predictive accuracy is high, *Data* assemblages are not simply technical systems but

socio-technical infrastructures that can entrench surveillance, vendor lock-in, and fragile dependencies if governance is weak (Kitchin 2014, 11–13; Lazer et al. 2014, 1204–5; Shelton et al. 2015, 20–22).

Equity and public value also remain unsettled. VGI and open data broaden participation, but contributions reflect unequal digital literacies and time, skewing visibility toward already empowered communities (Goodchild 2007, 218–21). Many high resolution datasets are commercially controlled or privacy-sensitive, limiting transparency and independent evaluation (Kitchin 2014, 8–12). Meanwhile, sensor deployments frequently target central districts and high revenue services, leaving peripheral neighbourhoods and social care under-instrumented; in such contexts, data improve operational efficiency without addressing structural exclusion or residents' affective relations to place (Kitchin 2014, 11–13; Lazer et al. 2014, 1204–5; Shelton et al. 2015, 16–23). These critiques complicate celebratory narratives and underscore that analytics are necessary but insufficient for a city's *cultural* transformation toward inclusion and belonging.

Based on the *Desirable Cities*' framework, data analysis initiatives typically offer Moderate benefits in the *natural* dimension when analytics target emissions, waste, or network losses; their *cultural* impact is Low to Moderate unless paired with participatory data governance and accessible feedback loops; and their *constructural* effects are High where real time coordination, routing, and asset management measurably improve system performance. Sustainability relevant gains remain contingent on equitable coverage, legibility, and democratic steering of data infrastructures.

Natural: Moderate | *Cultural*: Low to Moderate | *Constructural*: High.

4.4.5. Embracing social community

Urban community centred practice draws a long lineage from human scale critiques of modernist planning. Jacobs's analysis of "*eyes on the street*" anchored safety and sociability in mixed uses, active frontages, and near-continuous street life (Jacobs 2016a, 35–37). Whyte's time lapse observations showed that well used public spaces hinge on porous street interfaces as much as on amenities (Whyte 1980, 54). Gehl systematised these insights, distinguishing necessary, optional, and social activities and arguing that design should maximise the latter through fine grained pedestrian scale forms (Gehl 2011, 11–12; 53). Oldenburg's "*third places*" add a societal layer, emphasising informal, low cost venues that sustain everyday association beyond home and work (Oldenburg

1999, 47–50; 53). Together, these strands constitute a social community movement that prioritises proximate encounters and everyday conviviality as essential urban goods.

Translating principles into outcomes, empirical work clarifies how design enables sociability. Gehl links slower speeds and intimate spatial scales to intensified co-presence, chance contact and time for perception (Gehl 2011, 71–79). His analysis of "*soft edges*" shows why occupiable thresholds, like stoops, ledges, and front yards, intensify lingering and informal supervision of urban activity (Gehl 2011, 151–52; 189– 91). Whyte documents the same mechanics at the street and plaza joint, where corner activity, food vendors, and sittable edges catalyse encounters (Whyte 1980, 54). Appleyard's San Francisco study connects traffic volume to neighbourhood sociability, in which residents on light-traffic streets reported roughly three times as many friends as those on heavy-traffic streets, implicating mobility design in the production of social capital (Appleyard et al. 1981, 9; 21). These findings underwrite pedestrianisation, traffic calming, and active edge design as practical community building tools.

Yet social community strategies invite caution. Talen's review warns that claims linking form to "*sense of community*" are often overstated, contingent, or subject to selection effects; robust gains appear when design interacts with intermediate social variables and supportive governance (Talen 1999, 1361–66; 1371–73). Large-N studies show that collective efficacy, e.g., neighbours' trust and willingness to intervene, predicts violence reduction independently of, and often more strongly than, visible physical fixes; thus, design alone rarely shifts outcomes without social organisation (Sampson et al. 1997, 918–24; Sampson and Raudenbush 1999, 603– 51). In short, urban form can stage sociability, but enduring inequalities and institutional capacity shape whether conviviality proves *inclusive*, safe, and durable. This cautions against equating human scale urbanism with social justice absent targeted investments in capacity building and redistribution.

A balanced reading, consistent with the *Desirable Cities* framework, is therefore double edged. Community centred design promotes everyday association, through *small blocks*, *active edges*, and *third places* (Gehl 2011, 53; Oldenburg 1999, 47–50), and can support informal stewardship of streets (Jacobs 2016a, 35–37). However, because social cohesion depends on collective efficacy and wider structural conditions, these approaches occasionally address distributional inequities or environmental externalities on their own (Sampson et al. 1997, 918–24). Integrating community building with affordability, anti-displacement policies, and ecological performance (green infrastructure, heat mitigation)

is crucial if convivial urbanism is to become broadly *inclusive* urbanism. Such coupling preserves the movement's cultural strengths while extending its reach across *natural* and *constructural* systems and attending to *city users*' diverse emotional needs.

Based on this analysis, community focused strategies generally offer Low to Moderate benefits for the *natural* dimension, as ecological concerns are not usually central to fostering social cohesion. They achieve a High rating in the *cultural* dimension by emphasising face-to-face interaction, civic engagement, and inclusivity. At the same time, the *constructural* dimension typically scores Moderate to High, with human scale design and mixed-use layouts supporting vibrant public life. Nonetheless, broader economic disparities and ecological sustainability must still be addressed for these community driven models to reach *holistic* urban transformation.

Natural: Low to Moderate | *Cultural*: High | *Constructural*: Moderate to High

4.4.6. Embracing spatial emotions

Environmental psychology studies the "*spatial emotions*". Literature shows that people's affective states are influenced by urban form and micro-settings, demonstrating that places acquire reliably shared "affective qualities" (Russell and Pratt 1980, 311–22). In turn, research on restorative environment explains why daily exposure to *nature*, such as street trees, pocket parks, and natural elements, reduces stress and attentional fatigue (Kaplan 1995, 169–76; Ulrich 1984, 420–21). Translating these insights, Gehl argues that design elements at the human scale are preconditions for convivial public life and subjective comfort (Gehl 2011, 53–56), while Ellard elaborates a whole "*psychogeography*" framework (Ellard 2015). Together, these strands situate spatial emotions not as ephemera but as measurable design outcomes, with implications for social well-being and health.

Mechanistically, small urban design moves have outsized emotional effects. Whyte's observational studies found that plentiful, visually permeable corners, reliably "*seed*" sociability; people cluster where there are choices and things to do (Whyte 1980, 52–57). Gehl details how "*soft edges*" and short facade rhythms generate comfort (Gehl 2011, 53–56). Importantly, publicness frameworks remind people that perceived welcome is co-produced by design and governance: civility rules, surveillance, or programming can either enable or mute the affective benefits of otherwise "*good*" places (Németh and Schmidt 2011, 5–10; Varna and Tiesdell 2010, 575–82). These findings caution against

treating spatial emotions purely aesthetic; they emerge from the fit between micro-form, management, and everyday practices of social promotions.

Critically, a sole focus on "*feeling good*" public spaces can sidestep structural inequities and material needs. Governance regimes that intensify order often narrow *city users* spectrum, undermining the very inclusivity that spatial emotions interventions seek (Németh and Schmidt 2011, 6–12). Assessments of publicness show how control and civility dimensions can depress perceived welcome even when physical design performs well (Varna and Tiesdell 2010, 579–86). Meanwhile, restorative benefits from nearby *nature* are real but insufficient if not paired with affordable access to housing, services, and social infrastructure that sustains everyday attachments (Kaplan 1995, 176–80). The lesson for *Desirable Cities* is to embed affect sensitive design within governance and investment, so that emotional gains are not reserved for the already advantaged communities.

Based on the *Desirable Cities*' framework, spatial emotions initiatives typically offer Low to Moderate attention to the *natural* dimension, focusing more on the psychological benefits of *nature*, without a *holistic* approach to its essential role in preserving life in some cases, even suggesting the replacement of *real nature* for virtual imagery of nature (Ellard 2015, 43). In the *cultural* dimension, their impact can be High, as well-designed public areas and human centred layouts encourage social bonding, inclusivity, and overall well-being. Meanwhile, the *constructural* dimension sees Moderate to High benefits from thoughtful architecture and placemaking. However, broader issues like affordable housing or economic disparities can remain unaddressed unless integrated into the design process.

Natural: Low to Moderate | *Cultural*: High | *Constructural*: Moderate to High

4.4.7. Embracing Affordance

An affordance based perspective centres on the actionable possibilities that environments offer different bodies and skills, foregrounding the reciprocity between perceiver and setting (Gibson 2015, 127–28). In design practice, Norman recasts this as a programme of discoverability and feedback, where signifiers and constraints make uses perceptible and safe (Norman 2013, 10–14, 132–46). Architectural theory subsequently argues that affordances can provide a firmer conceptual basis than static "*form*" or "*function*," linking spatial elements to the activities they invite or inhibit (Maier et al. 2009, 393–97, 408–11). For urbanists, this reframing directs attention to edges,

gradients, surfaces and small-scale details, such as benches, stoops, thresholds, and tree belts, that solicit lingering, sociability and care, for example, the micro mechanics of everyday public life (Gibson 2015, 151–52; Maier et al. 2009, 409–14; Norman 2013, 125–46).

Empirical work shows how affordances shape participation, particularly for children. Heft's taxonomy demonstrates that varied topographies, loose parts and shelters afford climbing, sociality and imaginative play, in which resources are often missed in form based classifications (Heft 1988, 29–33, 35–37). Kyttä's studies link the actualisation of affordances to independent mobility and parental safety norms: a park may offer opportunities in principle, but traffic, surveillance or distance can prevent their realisation (Kyttä 2004, 179–83, 191–95). Philosophical elaborations emphasise that affordances are embedded in sociocultural practices; what a square affords depends on learned skills and shared norms as much as on materials (Rietveld and Kiverstein 2014, 326–33, 347–49). Together, these strands show that affordance sensitive urban design can retune everyday settings to expand inclusion, competence and delight, and thereby strengthen the cultural and experiential quality of place (Heft 1988, 33–37; Kyttä 2004, 190–98; Rietveld and Kiverstein 2014, 329–33).

Translating affordances into spatial decisions favours human scale, fine grained configurations over object monumentalism. Design guidance follows from linking elements to intended actions: seating height and orientation that afford conversation; tactile edges that afford play; shading and enclosure that afford comfort and lingering (Norman 2013, 124–46). In architecture, this approach proposes a shared language across disciplines (architects, engineers, and designers) to coordinate solutions around use-possibilities rather than solely typologies (Maier et al. 2009, 393–401, 409–14). Ecological psychology cautions, however, that affordances are relational: the same steps afford resting for some, are barrier for others, making universal design and graded difficulty central (Gibson 2015, 151–52; Rietveld and Kiverstein 2014, 326–30). Properly operationalised, affordances anchor a pragmatic, testable design ethic focused on what settings do for diverse bodies in everyday life.

Limitations mirror the theory's strengths. Because affordance analysis privileges micro-situations, it can miss structural determinants, like ownership, policing, and housing costs, that condition who can access and actualise a place's invitations (Kyttä 2004, 191–95). Designers may over rely on "*typical users*", overlooking how culture, age, disability or fear of harassment reshape the field of relevant affordances (Heft

1988, 33–36; Rietveld and Kiverstein 2014, 329–33). Without governance that protects the publicness of space, affordance rich plazas can still be excluded through pricing, surveillance, or management regimes. Affordance led interventions, therefore, enrich experiential quality, but they require coupling with social policy and ecological aims if they are to contribute beyond the street to room scale (Heft 1988, 35–37; Kyttä 2004, 193–97; Rietveld and Kiverstein 2014, 347–49).

Based on the *Desirable Cities* framework, affordance-oriented design typically offers Low to Moderate attention to the *natural* dimension unless paired with biodiversity and climate-adaptation goals. It scores High in the *cultural* dimension by deepening belonging, agency, and sociality. It yields Moderate to High *constructural* outcomes by refining the fit between spatial details and desired activities. To achieve *holistic* transformation, affordances must be integrated with distributional equity and ecological targets.

Natural: Low to Moderate | *Cultural*: High | *Constructural*: Moderate to High.

4.4.8. Embracing the *holistic* approach: Conclusions for *Desirable Cities*' positioning

The alternative movements outlined above highlight vital aspects of urban development but also reveal significant gaps in their ability to comprehensively address cities' and city stakeholders' complex needs and desires. For instance, sustainability often overlooks city stakeholders' emotional and *cultural* dimensions, while biotechnology may neglect accessibility and equity concerns. City marketing can revitalise local pride, but it risks reinforcing economic disparities. Social community movements foster interaction but fail to challenge broader city infrastructures and socio-economic inequalities.

Based on the *Desirable Cities*' framework, a *holistic* approach unites all three dimensions, *natural*, *cultural*, and *constructural*, to create integrated solutions. By weaving together ecological sustainability (*natural*), inclusive community engagement (*cultural*), and adaptive, user-centred design (*constructural*), *Desirable Cities* aims to overcome the fragmented partiality of earlier models. Instead of prioritising one dimension at the expense of the others, this integrated and *holistic* approach envisions urban environments where environmental protection, social equity, and functional or aesthetic innovation reinforce each other for long-term vitality and resilience.

Natural: Balanced | *Cultural*: Balanced | *Constructural*: Balanced

Below is a concise table summarising the alternative movements introduced and discussed in this section according to the *Desirable Cities*' framework. The rows represent the individual movements, and the columns denote the three focal dimensions, *natural*, *cultural*, and *constructural*, with the corresponding classification scores. This table offers a quick reference for where each movement excels or falls short, thus underscoring the necessity of a *holistic* approach that integrates all three dimensions for truly transformative urban development. See *Table 03*: *Alternative movements' evaluation of their holistic approach*.

As illustrated in the table above, each movement contributes valuable insights to urban development but often concentrates on a single dimension or two, whether ecological preservation (*natural*), social well-being (*cultural*), or function and form effectiveness (*constructural*), the outcomes are missing a comprehensive perspective. Hence, the chart highlights why *Desirable Cities* envisions an integrated framework that merges these distinct strengths into a unified, *interdisciplinary* and *holistic* model. This approach ensures that urban growth benefits ecosystems, people, and infrastructure, equally and comprehensively.

Table 03
Alternative movements' evaluation of their holistic approach

	Earth's sustainability (Natural)	***Social well-being (Cultural)***	***Effective function & form (Constructural)***
Sustainability	Moderate to High	Low to Moderate	Moderate to High
Biotechnology	High	Low to Moderate	High
City marketing	Minimal to Low	Moderate to High	High
Data analysis	Moderate	Low to Moderate	High
Social community	Low to Moderate	High	Moderate to High
Spatial emotions	Low to Moderate	High	Moderate to High
Affordance	Low to Moderate	High	Moderate to High
Holistic approach	Balanced	Balanced	Balanced

Desirable Cities puts forth a new, *holistic* framework that integrates the complementary knowledge of urban studies and city development. This framework not only consolidates the focus on the already mentioned *natural*, *cultural* and *constructural* environments of cities, addressing ecological sustainability, social equity, emotional well-being, and the functional and aesthetic conditions of *constructural* systems that are efficient and attractive, but also adds an *interdisciplinary* approach that extends the expertise of cities beyond the boundaries of urbanism, real estate, architecture, design, engineering, and construction. By embracing an *interdisciplinary* perspective that incorporates philosophy,

ecology, geography, biology, sociology, psychology, communication, semiotics, and economics, *Desirable Cities* offers a comprehensive model for city development that considers not only the material, economic, and technical parts of cities but also the Earth's natural ecosystems and the people's well-being in a *holistic* integration.

This *holistic* and *interdisciplinary* approach provides a necessary counterpoint to the materialistic focus of traditional urban development, creating spaces that support environmental protection and social flourishing. By integrating the contributions of diverse disciplines, *Desirable Cities* lays the groundwork for a more sustainable, inclusive and responsive future city development.

4.5. The advantages of Shanghai as a global urban laboratory: A concise account of *Desirable Cities*' preliminary analysis of Shanghai's potential to be a global field of research for urban studies

Desirable Cities' preliminary study of Shanghai's historical development and current conditions positions Shanghai as a unique urban laboratory for global research, offering thriving and diverse opportunities for urban studies.

Shanghai's urban environments have evolved over the past seven hundred and fifty (750) years (from 1267 – present), marked by significant historical transformations and *cultural* exchanges, which resulted in the development of a polymorphic urban structure, where multiple urban morphologies coexist within a confined geographical area of approximately 6,000 square kilometres. See *Image 003: Study area of Shanghai historical development*. This remarkable urban diversity makes Shanghai an ideal setting for studying the dynamic interplay between historic preservation, urban development, and globalisation, all within a single city with many urban morphologies. Shanghai's diverse urban forms, ranging from traditional Chinese walled cities and water towns to colonial settlements and Soviet-influenced architecture adjacent to capitalist high-rise developments, provide a rich layer of distinctive urban diversity, showcasing planning principles and architectural typologies that can be studied comprehensively and integrated within the same city.

An amalgamation of traditional Chinese city planning, colonial developments, and modern, post-modern and contemporary urban developments characterises Shanghai's urban fabric. This fusion of diverse historical influences enables a unique exploration of how cities can develop, adapt, and integrate various *cultural* and architectural elements over time. It also serves as a platform to test new theories and systems that can be

applied in cities globally that share similar urban features to Shanghai. By studying Shanghai's structure, focusing on its diverse urban morphologies, and testing urban



Image 003. *Study area of Shanghai historical development*

tools, *Desirable Cities* aims to provide an approach for understanding expectations for desirable urban experiences that can be applied to cities worldwide. Shanghai's adaptability, resilience, and openness to global trends make it an ideal field of research for examining urban transformation in the context of *cultural* heritage, economic growth, social developments and reorientations towards urban ecological sustainability. All of which are part of *Desirable Cities*' *holistic* target.

Shanghai's historical development can be divided into distinct phases, each contributing different layers to its current urban structure. The city's journey from a modest trading port in 1267 to its present status as a global metropolis has been shaped by a variety of foreign influences, such as the British, French, American, Japanese, and Soviets, who introduced diverse urban forms and planning principles. This convergence of cultures has resulted in a multi-layered city where traditional Chinese water town morphology coexists with European-style buildings, boulevards, and streets, as well as the American commercial districts and modern global financial hubs, among other morphologies.

Thus, Shanghai's development as a global urban laboratory can be traced through several significant morphological layers that reflect its diverse historical and *cultural* influences, including *Chinese Jiangnan's water towns*, the *British Settlement*, the *French Concession*, *Shanghainese Lilong*, the *USA and Japanese settlements*, *Shanghai's Republic Era* planning and architecture, the *war-time period*, and the *Soviet, Modern, Postmodern and Contemporary* urban models' influences.

4.5.1. Shanghai's traditional Jiangnan's water town: Low-scale buildings within water canals

At its core, Shanghai's traditional urban form was shaped by its riverside location, with water canals as the primary means of transportation and trade. Initially, Shanghai did not have a city wall as it was not a significant centre in the early Chinese dynasties. However, in 1267, when the Huangpu River took over the trading traffic from the Wusong River (known today as Suzhou Creek), Shanghai became one of the Southern Song Dynasty's tax bureaus. This significant change gave Shanghai a higher status, and later (1554), the commission to build its city wall. This Chinese city model, interconnected by waterways and surrounded by agricultural lands, exemplifies the traditional Jiangnan water town model. These towns were characterised by their intricate canal systems, where transportation, commerce, and daily life were closely intertwined with the aquatic environment. The low-rise, densely packed buildings, with white-washed walls, black-tiled roofs and red lanterns, are iconic features of this historical morphology. Public spaces such as markets, teahouses, and temples lined the waterfront, serving as vital centres of community life. This water-based layout also reinforced social hierarchies, with wealthier individuals living in larger, more elaborate homes near the water canals, while the less privileged resided in denser, more modest quarters. See *Image 004*: *Shanghai's water town map (the beginnings of Shanghai)* and *Image 005*: *Illustration of Shanghai's traditional Jiangnan water town morphology and Shanghai's water town look*.



Image 004. *Shanghai's water town map (the beginnings of Shanghai).*

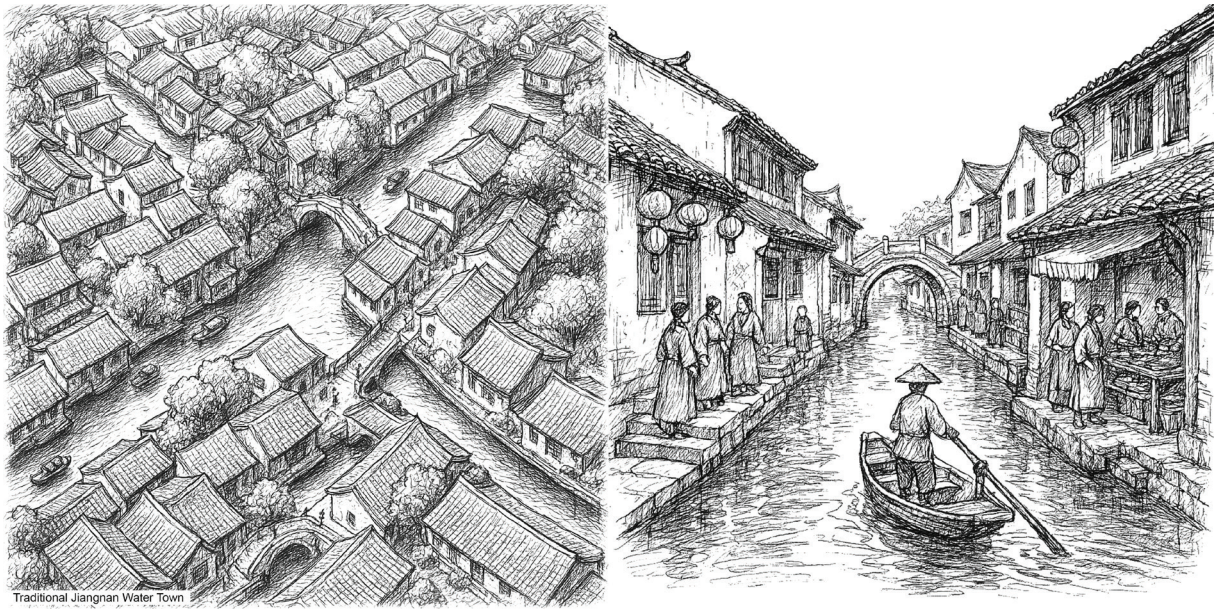


Image 005. *Illustration of Shanghai's traditional Jiangnan water town morphology and Shanghai's water town look.*

4.5.2. Shanghai's British Settlement: Monumental stone buildings with a Grid-like Layout



Image 006. *Shanghai's British Settlement map.*



Image 007. *Illustration of London's Fleet Street, 1920s and Shanghai's Nanking Road, 1920s.*

By the 19th century, Shanghai had become the leading producer of cotton in China and one of the busiest ports on the eastern coast of China (Lu 1992; Scheen 2015, 17). This drew the attention of Lindsay's expedition, which explored the east coast of China to determine where to establish British settlements after winning the Opium War (Lindsay and Gutzlaff 1833, 167–214; Scheen 2015, 17). It is estimated that Shanghai's trade at that time was "*equal to or greater than that of its contemporary London*" (Pan 2008, 204). This led to the establishment of Shanghai's British Settlement adjacent to the bustling Shanghai Walled City in 1845 (Cheval 2018, 44). Because of this historical development, Shanghai's urban structure began to diversify significantly. The British began to build solid foundations on Shanghai's northern lands of the Walled City, separated by one water canal, which grew from the banks of the Huangpu River (now known as The Bund) towards the city's west. They introduced a distinct grid-like street layout in this settlement, which contrasted sharply with the organic, water-based canals of the traditional Chinese city, both within and outside the walls, on the east and southern lands. This British model, new to Shanghai, featured wide streets designed for commercial traffic and monumental buildings constructed in the British style from stone (Lee 1999, 8–15). Rapidly, the British Settlement became a commercial and financial hub with banks, hotels, and other public buildings filled with people and trade (Pan 2008, 205–9). All this urban, social and commercial development, linked to the significant British large trade across all continents, made the atmosphere of Shanghai's British Settlement a vibrant and cosmopolitan centre that many thought echoed London's lifestyle (Wasserstrom 2009, 47). See *Image 006*: *Shanghai's British Settlement* map and *Image 007*: *Illustration of London's Fleet Street, 1920s and Shanghai's Nanking Road, 1920s*.

4.5.3. Shanghai's French Concession: Detached garden homes and tree-lined avenues

The news of the British Settlement establishment in Shanghai and the ever- busier trade that Shanghai's Walled City and British Settlement collectively produced caught the attention of the French Empire, forcing the Qing Dynasty to grant them an independent settlement within Shanghai. Squeezed between the north and northwest land of Shanghai's Walled City and the water canal at the border of Shanghai's British Settlement, Shanghai's French Concession was established, introducing another layer to Shanghai's urban diversity. In contrast with the British, the French urban model implemented a lower-density aesthetic characterised by tree-lined streets and boulevards, detached villas

with private gardens, and public parks and gardens. This area was designed to offer residential luxury areas and bohemian street life, attracting foreigners (including British) and Chinese elites (Lee 1999, 18–23). The French Concession's streets, reminiscent of those in Paris, were intended to create a comfortable environment where people could live, work, and socialise (Pan 2008, 221–22), with plane trees (*Platanus x Hispanica* or *Platanus x Acerifolia*) planted every three (3) meters on both sides of the streets and



Image 008. *Shanghai's French Concession map.*

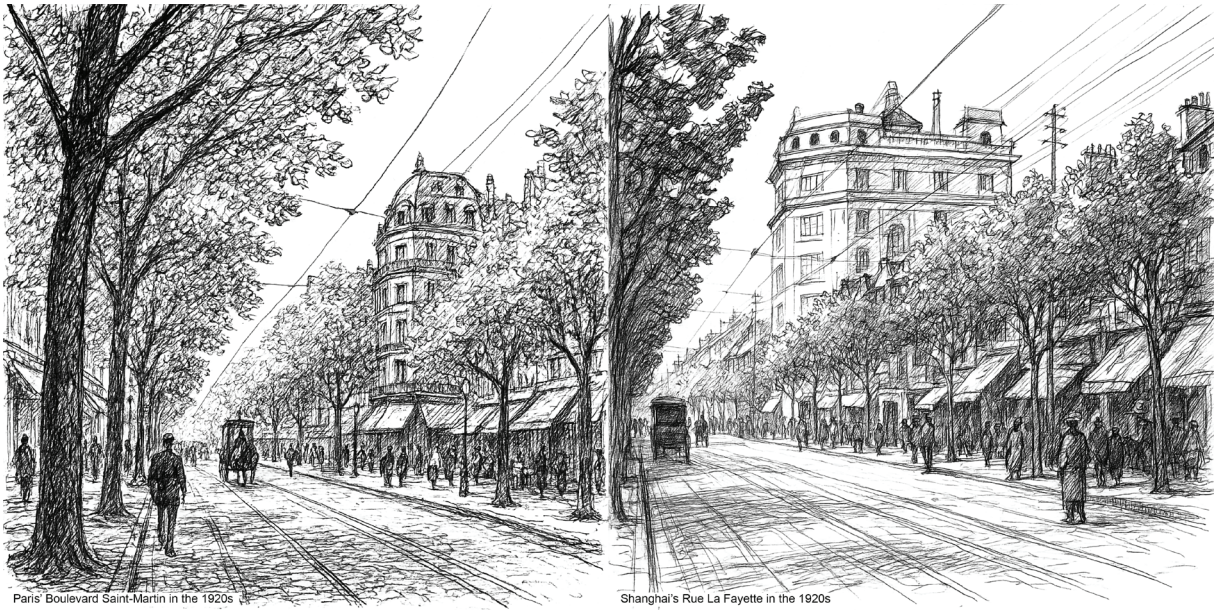


Image 009. *Illustration of Paris' Boulevard Saint-Martin, 1920s and Shanghai's Rue La Fayette, 1920s.*

boulevards, providing shade in hot summer, and allowing the sun exposure in the cold winter (as the trees lose their leaves in the autumn). In terms of architecture, the French Concession included a mix of French, Art Deco, and Classical style influences (Major 2011, 32). See previous *Image 008*: *Shanghai's French Concession map* and *Image 009*: Illustration of Paris' Boulevard Saint-Martin, 1920s and *Shanghai's Rue La Fayette, 1920s*.

4.5.4. Shanghai's *Lilongs*: A real estate answer for exponential growth

The Taiping Rebellion in the mid-19th century is known as the deadliest civil war in human history. This civil war made Shanghai the most liveable city in the region (Platt 2012, 66–78). The protection and security provided by the Chinese Emperor's, British, and French armies collectively to Shanghai's entire territory ensured a peaceful environment where urban life thrived independently of the war. Anyone within Shanghai's entire territory had a real refuge from this civil war, which increased its population exponentially from 270,000 to 1,000,000 inhabitants between 1843 and 1911 (Cheval 2018, 74; Scheen 2015, 17). This enormous migration into Shanghai demanded an architectural response, giving rise to a residential model known as Lilong (also called "lane houses"). Lilong's blend of Chinese and Western building elements became a distinctive architectural style in the new developments of Shanghai, encouraged by the increased population. Thus, the Lilong urban typology (also known as *Shikoumen*) expanded massively and rapidly within the city. The block morphology of this urban typology is characterised by narrow and long buildings set next to each other, using communal walls in rows that always run from east to west. Each row of houses is accessed through a shared lane on both sides: through the north by the service entrance and through the south by a noble entrance connected to an open-air courtyard. Each block has an average of ten (10) internal lanes. These lanes are characterised by busy communal life, which serves as semi-public spaces where residents interact socially with neighbours (Cheval 2018, 235–36). The houses are typically three or two-storey buildings with rooms organised around the south courtyard in an "L" or "U" shape, maximising sun exposure (Cheval 2018, 44–78). See *Image 010*: *Shanghai's Lilong locations* and *Image 011*: *Illustrations of Shanghai's Lilong morphology and Shanghai's Lilong*.

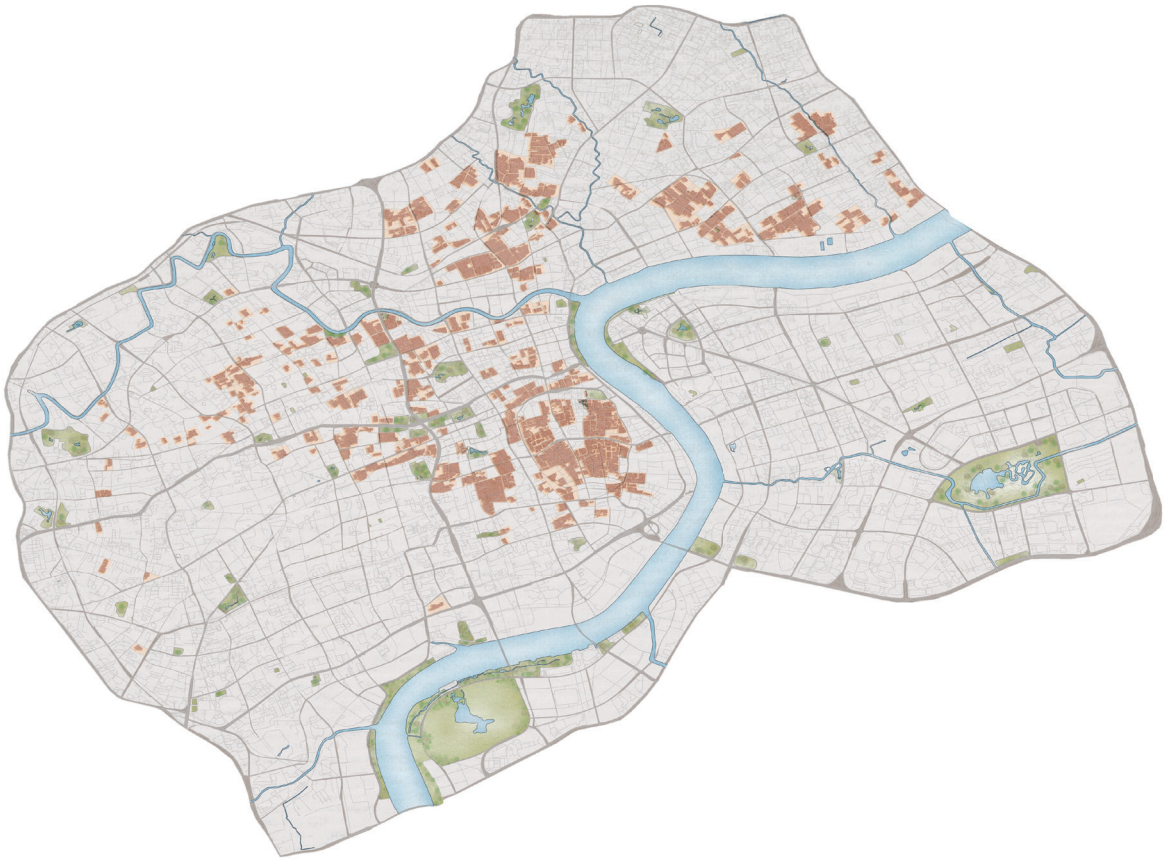


Image 010. *Shanghai's Lilongs locations.*

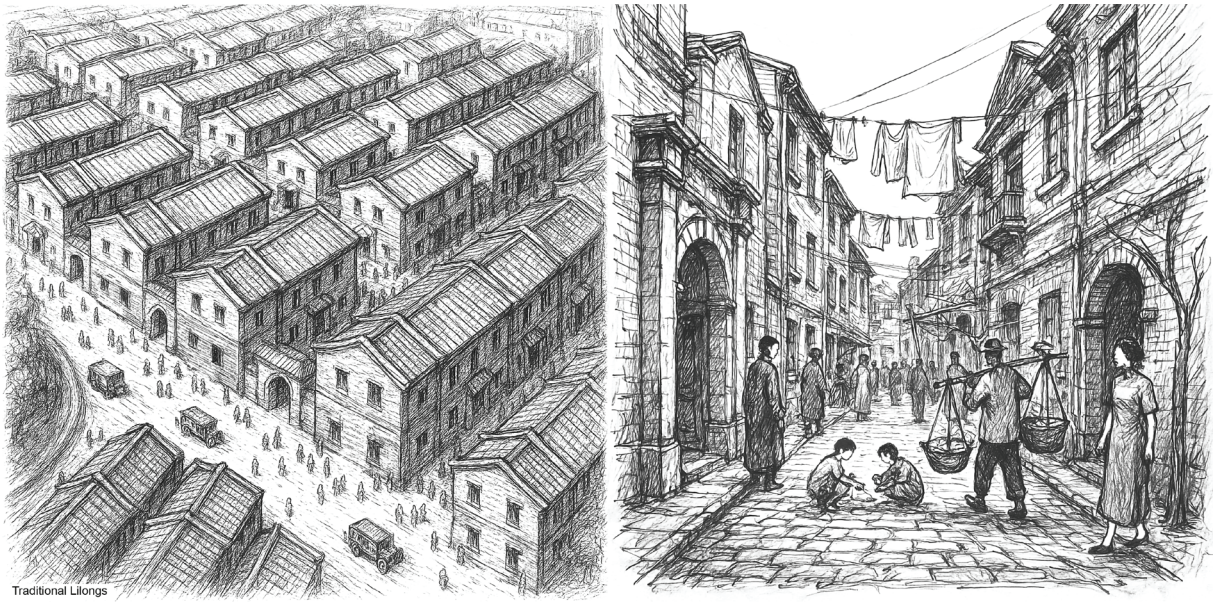


Image 011. *Illustration of Shanghai's Lilongs morphology and Shanghai's Lilong look.*

4.5.5. Shanghai's USA and Japanese settlements: Industrial buildings within economic hubs

These settlements further diversified Shanghai's urban morphology and added more topologies to the city's commercial, industrial, and *cultural* landscape in a district known today as Hongkou. Known as the "American" Settlement, it introduced urban features reminiscent of New York's Lower Manhattan (Wasserstrom 2009, 49). Although it is less prominent today, its architecture included a mix of industrial warehouses, residential spaces, and commercial buildings, all strategically located north of the British Settlement on the other side of Suzhou Creek and next to the Huangpu River to capitalise on Shanghai's role as a global trading centre. The American Settlement's architecture, blending Western and Chinese styles, reflected the transcultural character that Shanghai started to develop at that time (Pan 2008, 25), and also exhibited new architectural styles, like Romanesque Revival and cast- iron buildings (Gayle and Gayle 1998, 5–12; Larson 2020, 2–6). Similarly, the Japanese community developed in the western part of the American Settlement, alongside Suzhou Creek, an area known as "*Little Japan*", which introduced Japanese architectural elements, particularly in industrial facilities like warehouses and factories (Chen and Oba 2010). This area contributed to Shanghai's manufacturing capabilities and became a key *cultural* hub for intellectual exchange between the Chinese and Japanese (Kato 2022; Lee 1999, 315–19). See *Image 012*: *Shanghai's USA Settlement map*, *Image 013*: *Illustrations of New York's lower Manhattan riverside,1920s and Shanghai's Hongkou riverside,1920s, Image 014*: *Shanghai's Japanese settlements locations*, and *Image 015*: *Illustrations of Tokyo's bookstore, 1920s and Shanghai's Uchiyama bookstore, 1920s*.



Image 012. *Shanghai's USA Settlement map.*

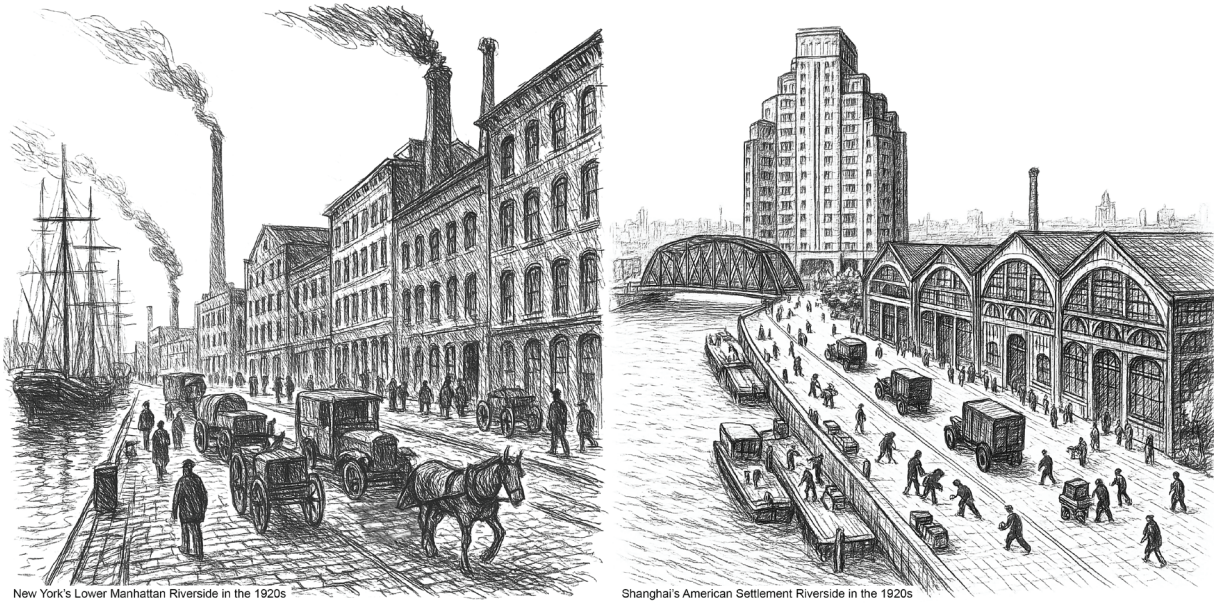


Image 013. *Illustration of New York's lower Manhattan riverside, 1920s and Shanghai's Hongkou riverside, 1920s.*



Image 014. *Shanghai's Japanese settlement locations.*

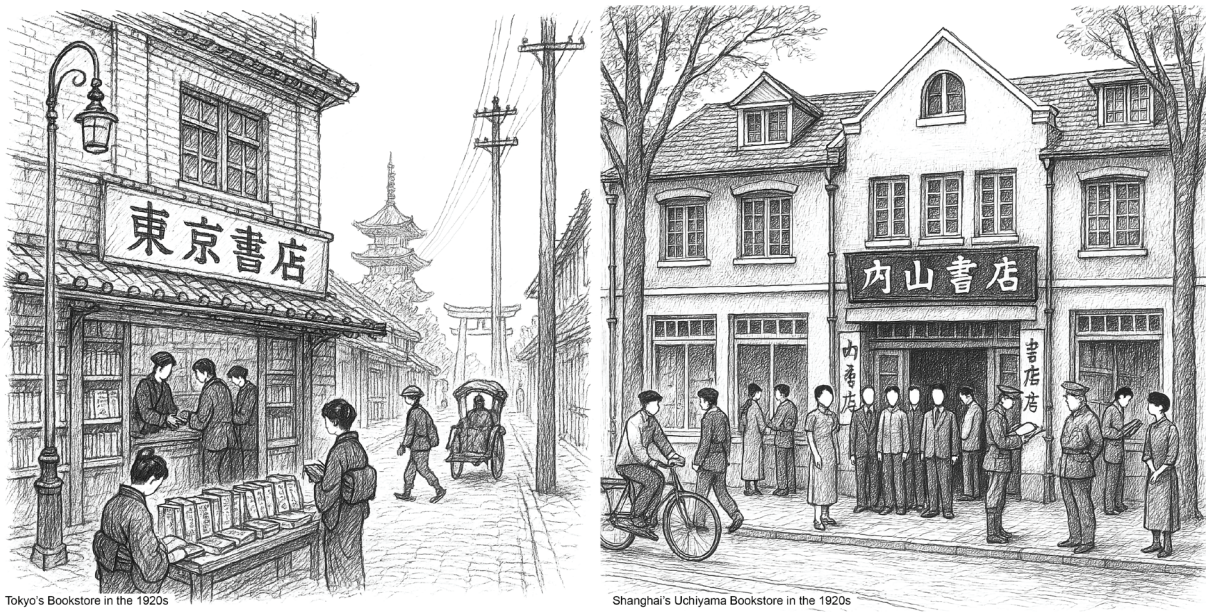


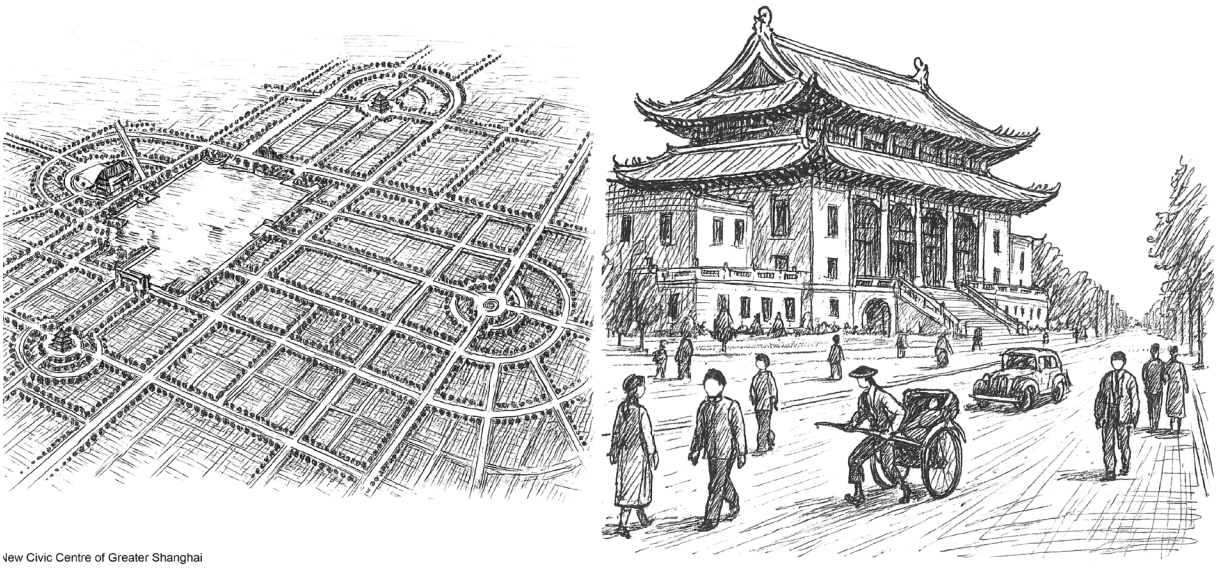
Image 015. *Illustration of Tokyo's bookstore, 1920s and Shanghai's Uchiyama bookstore, 1920s.*

4.5.6. Shanghai's *Republic Era* new city: Fusion of tradition and modernity

During the Republic Era (1911–1949), Shanghai underwent significant urban transformations as part of the Kuomintang's efforts to modernise the city. The Chinese government of that period wanted to build urban infrastructure, including new roads, bridges, public parks and utilities, such as electricity and telecommunications (Pan 2008, 233–34). This urban renovation of Shanghai introduced, yet in a new area of the city (at the north of the American Settlement), a unique urban model that mixed Chinese imperial urban characteristics with modern urban principles from the "*International Style*" to build the "New Civic Centre of Greater Shanghai", an urban grandiose master plan aiming to create a new city similar to that developed more than twenty (20) years later by Oscar Niemeyer for Brasilia. The Kuomintang's goal was to establish Shanghai as a model of modernity while preserving its cultural heritage, as evident in architectural projects such as the Shanghai Municipal Government Building (1933) and the Shanghai Municipal Hospital (1937). This new administrative centre of the Kuomintang government also implemented an urban geometric grid, with wide boulevards and strategically placed public buildings. For example, the government building in the north of the grid (representing the head as a symbol of government), connected by the central axis to the hospital in the south of the grid (representing the foundation, as a symbol of health); and the library in the east of the grid (representing the beginning and future, as sunrises) connected by a boulevard to the museum in the west of the grid (representing the past and heritage, as sunset). This fusion of modern infrastructure and traditional symbolic design elements created a distinct urban morphology, showcasing Shanghai's aspirations to become a modern metropolis while staying rooted in its cultural and historical identity (Dong 1935; Huang and Zhang 2021). This character remains visible in today's Shanghai's aspiration to be a contemporary and sustainable global capital. See *Image 016*: *"New Civic Centre of Greater Shanghai" map* and *Image 017*: *Illustrations of the New Civic Centre of Greater Shanghai morphology and its building for the* Shanghai Municipal Government.



Image 016. *"New Civic Centre of Greater Shanghai" map.*



New Civic Centre of Greater Shanghai

Image 017. *Illustrations of the New Civic Centre of Greater Shanghai's morphology and its building for the Shanghai Municipal Government.*

4.5.7. Shanghai's war period: A momentary pause on urban development

The mid-20th century represented the biggest challenge for Shanghai. With the Japanese bombing of Shanghai and the following military occupation in 1937, the urban development of Shanghai stopped. Many Chinese died, and almost all the foreigners fled. In 1942, after the December 1941 bombing of Pearl Harbour by the Japanese, the U.S. declared war against Japan, and the Axis powers declared war against the U.S. In response, the Japanese forces occupying Shanghai interned the few foreign nationals of the Allied nations who were still living in Shanghai until the war's end in 1945 (Wang and Barr 2011, 161–78). Following the end of World War II, a subsequent civil war between the Kuomintang (KMT) and the revolutionary army led by Mao Zedong led to a change of government in 1949. The establishment of the People's Republic of China enriched the urban landscape of Shanghai once again, as it brought forth Soviet architectural and planning influences (Scheen 2015, 39–43).

4.5.8. Shanghai's post-war: Developing *Soviet*, *Modern*, *Postmodern*, and *Contemporary* styles.

Following the establishment of the People's Republic of China in 1949, Shanghai's urban landscape was further shaped by Soviet-style planning principles, which prioritised functionality and the creation of grand, monumental public spaces. In the 1950s, the construction of the Sino-Soviet Friendship Hall (later renamed as the Shanghai Exhibition Centre) introduced Stalinist architectural elements to the city, marking a significant departure from its previous colonial morphologies (Chang 2019; Sun and Smith 2019). In the late 20th and early 21st centuries, with the opening reforms, Shanghai adopted modern and postmodern trends, with the development of Lujiazui tall apartment buildings and a new financial district (Brook 2013, 295–323). The skyscrapers that dominate the Pudong skyline, such as the Pearl Tower (1991 - 1994), Jin Mao Tower (1994 – 1999), Shanghai World Financial Centre (1997 – 2008) and the Shanghai Tower (2008 – 2014), exemplify the city's shift towards high-rise, vertical development within the Postmodern and Neo-futurism urban planning principles (Greenspan 2014). In recent decades, Shanghai has adopted a more contemporary approach to urban planning, incorporating *sustainable* and *smart* technologies, as evident in the extensive redevelopment of the city's riverside areas along the Huangpu River and Suzhou Creek. This project has been designed to integrate ecological considerations, including concepts such as "*sponge city*" to prevent

floods, enhance public spaces for people's well-being, and improve air quality through green infrastructure (Den Hartog 2021; Zhu and Li 2024). This contemporary model seamlessly integrates sustainable urbanism with cutting-edge technological innovations, leveraging real-time data analytics to enhance traffic management and improve energy efficiency (Cui et al. 2023). The incorporation of these principles signals Shanghai's commitment to balancing rapid economic growth with environmental responsibility and urban liveability, as it addresses the current challenges of urban development in a rapidly urbanising world, which aligns with many of *Desirable Cities*' goals. See *Image 018*: *Shanghai's Soviet style maps*, *Image 019*: Illustrations of Moscow's Central Pavillion of the Exhibition of Achievements of National Economy and *Shanghai's* Sino-Soviet Friendship Hall, *Image 020*: *Shanghai's Modern style map*, *Image 021*: *Illustrations of Shanghai's Modern style morphology and Shanghai's standard residential tower*, *Image 022*: *Shanghai's Post- Modern style map*, *Image 023*: *Illustrations of Shanghai's Post-Modern style morphology and Shanghai's Lujiazui*, *Image 024*: *Shanghai's Contemporary style map,* and *Image 025*: *Illustration of Shanghai's Contemporary style morphology and Shanghai's Huangpu riverside sustainable development*.



Image 018. *Shanghai's Soviet style map.*

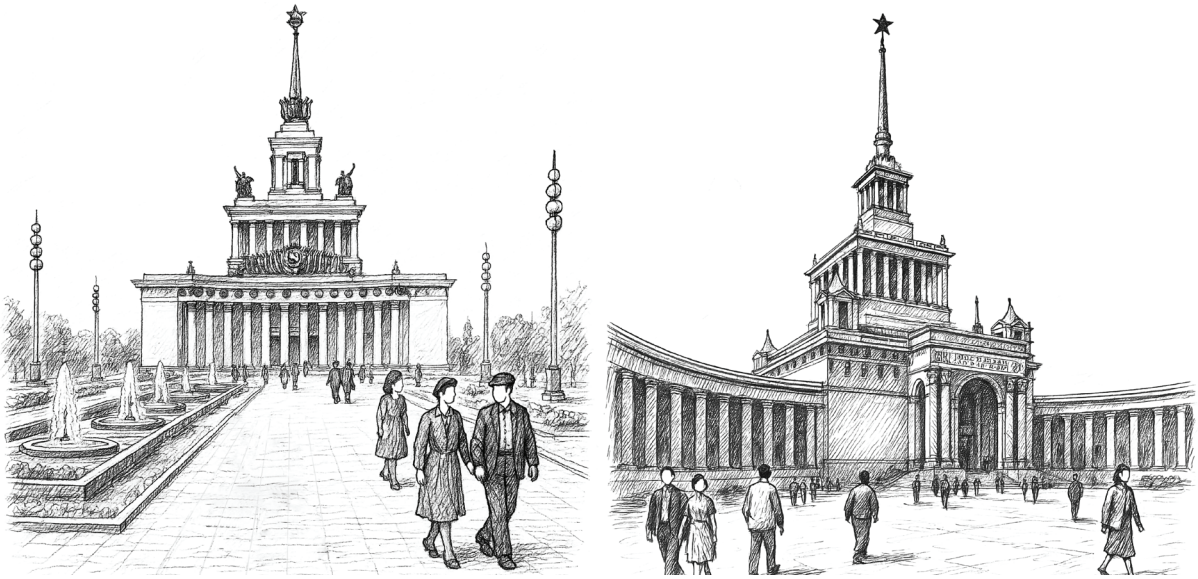


Image 019. *Illustrations of Moscow's Central Pavilion of the Exhibition of Achievements of National Economy and Shanghai's Sino-Soviet Friendship Hall.*



Image 020. *Shanghai's Modern style map.*



Image 021. *Shanghai's Modern morphology and Shanghai's standard residential towers.*



Image 022. *Shanghai's Post-Modern style map.*

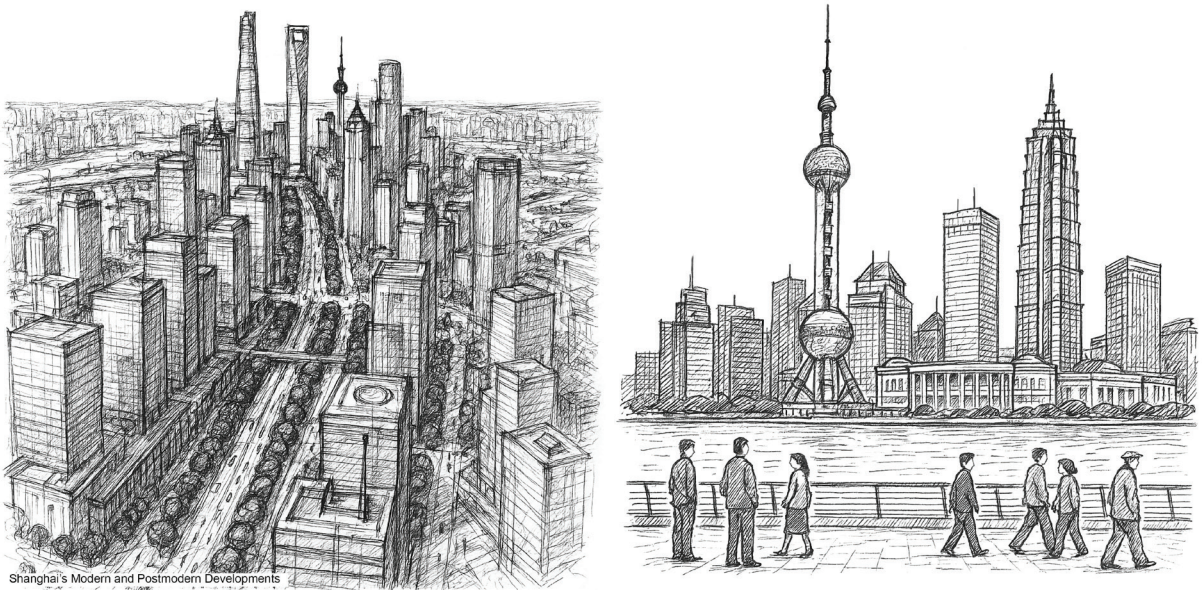


Image 023. *Shanghai's Post-Modern morphology and Shanghai's Lujiazui.*



Image 024. *Shanghai's Contemporary style map.*

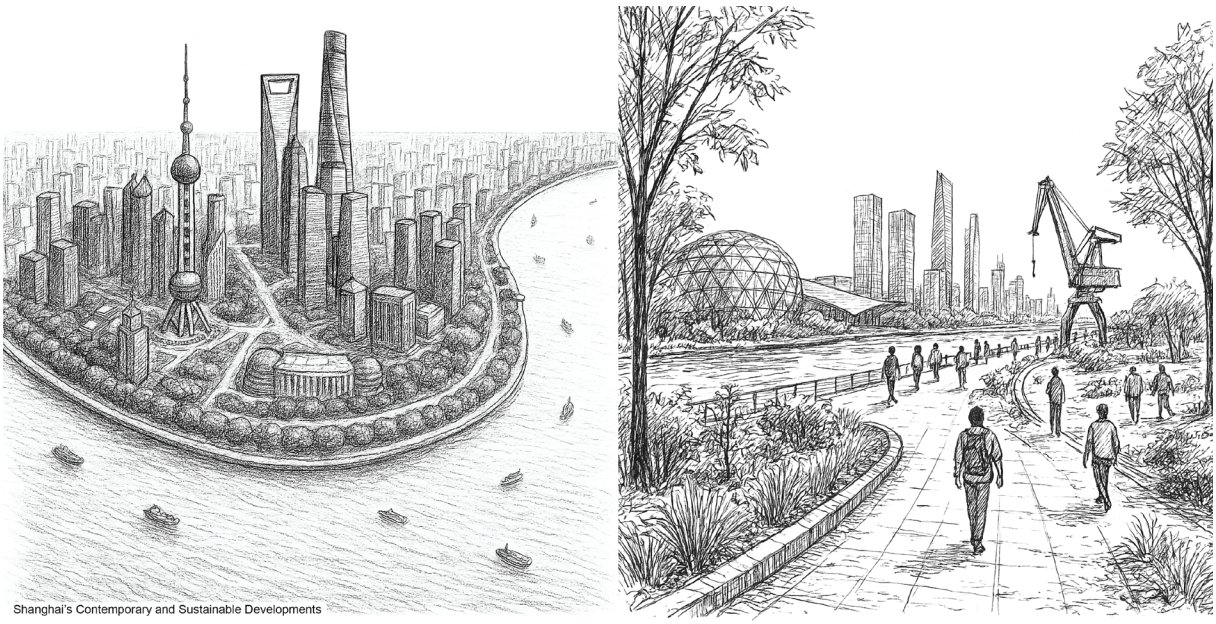


Image 025. *Illustrations of Shanghai's Contemporary style morphology and Shanghai's Huangpu riverside sustainable development.*

4.5.9. Shanghai's morphological diversity: Conclusions for *Desirable Cities*' field of research

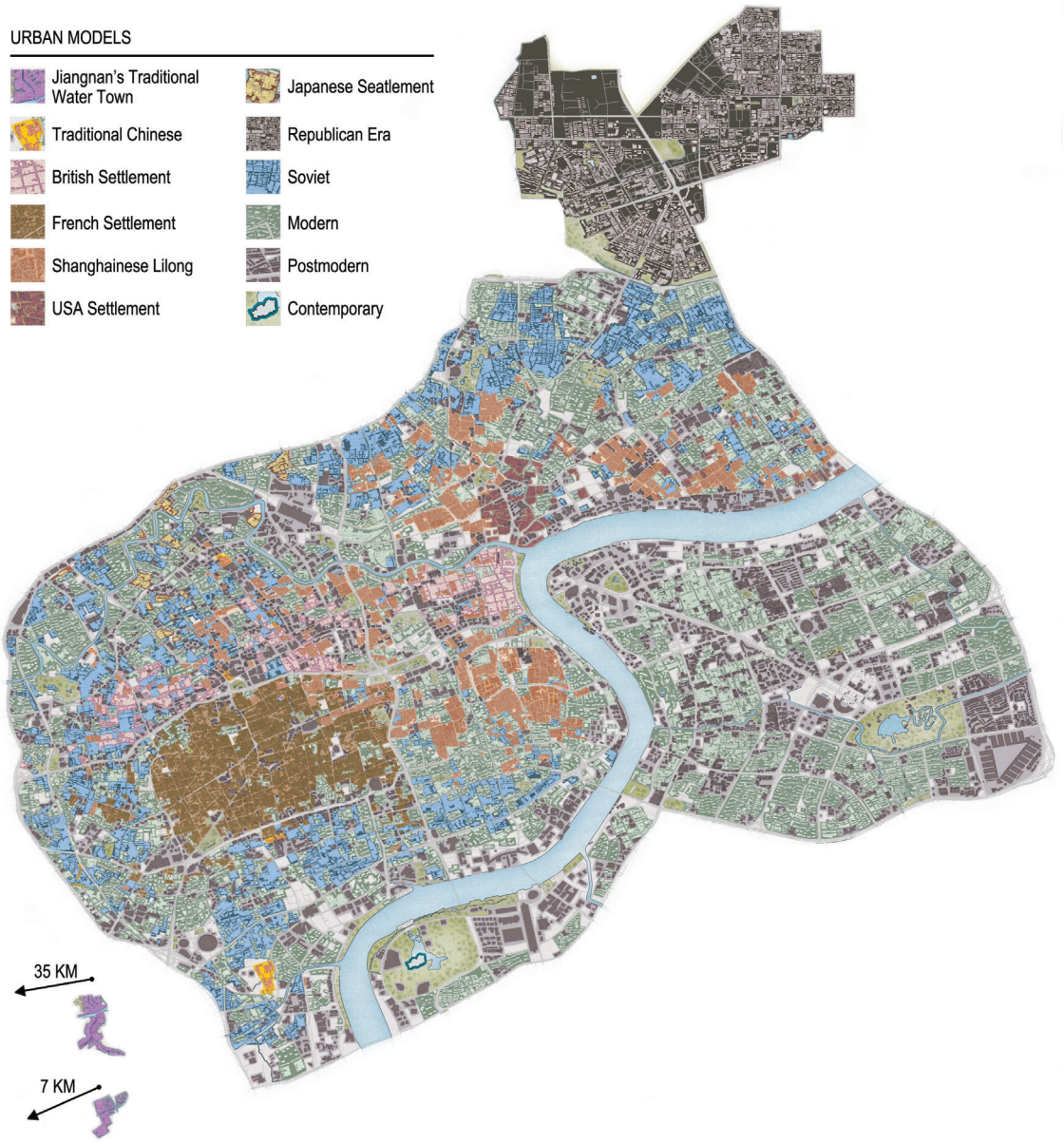


Image 026. *Shanghai's morphological diversity.*

The coexisting of these diverse urban forms next to each other, just like an urban patchwork-quilt, without losing their specific characteristics, including old traditional Chinese water towns, European American and Asian urbanistic models from the colonial era, to Modern, Post-modern and Contemporary principles of urban planning in architecture adapted to the context of communism, socialism and capitalism, gives Shanghai a unique possibility to leverage its urbanistic, economic, and social diversity, as a global laboratory for urban studies. Its population's ability to integrate and assimilate

these diverse influences and welcome foreigners also provides a remarkable opportunity to study urban phenomena within a society that is continuously facing urbanistic, *cultural*, political, economic, and technological changes. These layers offer valuable insights into the complexities of urban transformation, which encouraged *Desirable Cities* to choose Shanghai as an ideal site for its empirical research. By leveraging Shanghai's polymorphic urban structure, *Desirable Cities* aims to test its findings in a context that embodies the diverse urban challenges faced by cities worldwide. See previous *Image 026*: *Shanghai's morphological diversity*.

Shanghai's potential to conduct global urban studies underscores the decision to base *Desirable Cities*' field research solely in Shanghai, notwithstanding its international scope in addressing urban desirability worldwide.

4.6. *Desirable Cities*' initial empirical experiments to explore ways forward: *Desirable Cities*' preliminary empirical experimentation, as sketches for *Desirable Cities*' positioning, theoretical framework, and tools development



Image 027. *DC-PS. Desirable Cities' field of research.*

Desirable Cities' preliminary empirical experiments examined how emotional, physical, and rational dimensions converge in Shanghai's open-air public spaces.Conducted over approximately thirty (30) months (excluding periods of pandemic- related interruption), the programme engaged ninety (90) participants across the thirty (30) most popular

locations within the Inner Ring and the 2010 International Expo areas. Each participant was pseudonymised with a unique P-numeric code. Where an individual took part in more than one phase, the same code was retained to maintain analytic continuity while safeguarding privacy. The geographic scope is mapped in *Image 027*: *Desirable Cities' field of research*.

These preliminary empirical studies are organised in five phases that trace the project's progression from pragmatism to Peirce's *Pragmaticism* as a paradigm. Rather than debating abstract qualities of *desirability*, each phase operationalised how *signs* bear on *situated behaviour* in public space, namely: platform-mediated signs (user-generated images and captions attached to posts; review texts; user-generated star-ratings aggregated by platforms into ranks/sorting); material/spatial cues (wayfinding or commercial signage; landmark silhouettes; edges, nodes and thresholds; water edges; shade; seating and other urban furniture); performative/spectacular signs (posed selfies, influencer-styled, table-scapes and other staged props observed on site); *imaginaries* (participants' narrated expectations and mental images); and temporal conditions (day/night rhythms, weather, seasons). In Peirce's terms, the meaning of such *signs* is grasped through their conceivable practical bearings, or what signs lead people to notice and do, without denying the material existence of Earth ecosystems and within it the urban settings that scaffold *signs* (Peirce 1960d, 388–437).

For example, in the empirical test at The Bund and Nanjing East Road, replacing photograph cards with minimalistic graphic cards increased identification accuracy with the same participants from roughly 50% to 90%, which in turn enabled stable grouping and storyboard composition of *desirable* urban experiences at those locations; the representational *sign* (the cards) altered participants' actions in the session while benches, shade and vistas at the sites remained materially the same (at the Bund and Nanjing East Road). The sequence therefore moved from macro-scale mapping, to linguistic elicitation, to participant-generated images, to curated visual sorting, and finally to diagrammatic composition in a singular micro- scale. A multimodal arc developed and designed to triangulate what people *say*, *see*, and *do* in public settings from their expectations of *desirable* urban experiences (Pink 2015, 73–76; Rose 2016, 17–20; 36–37). These five phases are addressed as: *Shanghai-map*, *Question-naire*, *Picture-naire*, *Photo-naire*, and *Graphic-naire*.

Shanghai-map established a city-scale baseline by combining systematic field observation with a digital-trace layer from digital platform analyses, to locate and

characterise hotspots within the selected areas in Shanghai. Field notes were read through *Desirable Cities*' environmental triad (*natural*, *cultural*, *constructural*), Lynch's spatial orientation elements ("*paths, edges, districts, nodes, and landmarks*"), and additional patterns found in the field, such as *social activities* and *transportation systems*. Thus, subsequent phases could link talk and images to recognisable spatial referents (Gehl and Svarre 2013, 21–36; Lynch 1960, 46–83).

Question-naire shifted to linguistic elicitation. Two anchor questions with light probes to capture how stakeholders verbalise desirability on-site. Its key finding was methodological: language alone yielded thin descriptors and struggled to name multisensory qualities, motivating a visual turn (Pink 2015, 73–76).

Picture-naire focused on participants' generated imagery (photographs + on-photographs marking) and paired each participant's imagery with a 180° context panorama, making visible how personal selections relate to adjacent affordances and flows (Rose 2016, 36–37).

Photo-naire introduced a macro level approach to the study of urban components. It used a photographic catalogue converted into cards, aiming to let participants manipulate them and reason at micro and macro scales without relying on memory. As an instrument test, it also revealed a representational limit: photo cards frequently embed multiple cues in saturated urban scenes, reducing recognition stability across respondents. This diagnosis prompted a shift in the carrier of the sign (Larkin and Simon 1987, 65–71).

Graphic-naire replaced photos with minimalistic illustrations, improving recognition and enabling generative composition at the micro and macro levels attended by the *Photo-naire*. Additionally, short walks refreshed embodied impressions of the field of research before the interviews with the illustrated cards (Kusenbach 2003, 463–68; Lynch 2006, 185–204). Participants at the table with the cards, identified, grouped, and storyboarded *desirable* scenarios by assembling the cards. The playful and diagrammatic medium supported scanning and inference of the entire field of research by reducing and aligning information spatially (Bertin et al. 1983, 1–13; Biederman 1987, 133–34; Gaver et al. 1999, 21–29; Larkin and Simon 1987, 65–71).

Across these five phases, the empirical *preliminary studies* established a substantive baseline, methodological warrant and paradigmatic alignments for the *grounding* of *Desirable Cities*. A field of research with global characteristics was confirmed to elicit the co-production of *desirable* expectations through the circulation of *symbols*, the communications of *imageries* and the mapping and catalogue of urban affordance

cues. A multimodal toolkit was established with processes of space mapping (maps), space immersion (walks), and communication through language, sorting images and diagrammatic composition (talks). A paradigm emerges as the preliminary studies advance an initial pragmatic approach towards an adaptation of Peirce's *Pragmaticism* (Peirce 1960d, 388–437).

4.6.1. The Shanghai-map

The *Shanghai-map* phase established a city-scale baseline of how physical settings, co-present social practices, and platform-mediated representations jointly shape what becomes publicly *desirable*. Methodologically, this study operationalised a pragmatic and phenomenological stance by conducting an online study that provides a macro-scale view of social opinions and trends from the diverse groups of city stakeholders, with semiotic analysis of the four popular platforms related to urban activities. Then, an offline observation at the top thirty (30) most digitally popular locations allowed the evaluation of the micro-scale nuances of these digitally identified trends and patterns of opinion in relationship with the field-observed social behaviours.

Thus, the *Shanghai-map* combined (A) a digital-trace layer using highly used Chinese and English language platforms to identify, compare, and contextualise hotspots and (B) systematic field observation across multiple open-air public spaces (identified in the digital-trace) within Shanghai's Inner Ring and the 2010 Expo area. For Chinese-speaking users, Dianping (大众点评) and Xiaohongshu (小红书); for English-speaking users, Smart Shanghai and Shanghai Wow. These platforms were selected based on popularity and usage patterns to capture how rating/review affordances produce widely circulated recommendations.

The findings of this empirical exploration demonstrated the connection of urban behaviour with theories of semiotic interpretations, social communication and mimetic desirability. The online layer identified frequently mentioned open-air public spaces and typical activities; the offline layer yielded situated notes on flows of pedestrian traffic, body postures, and actual uses of the spaces (whether these uses were planned initially by the *city makers* or appropriated later by the *city users*). See *Image 028*: *DC-PS. Shanghai-map – Dianping digital analysis*, *Image 029*: *DC-PS. Shanghai- map – Xiaohongshu digital analysis*, *Image 030*: *DC-PS. Shanghai-map – Smart Shanghai digital analysis*, and *Image 031*: *DC-PS. Shanghai-map – Shanghai Wow digital analysis*.



Image 028. *DC-PS. Shanghai-map – Dianping digital analysis.*



Image 029. *DC-PS. Shanghai-map – Xiaohongshu digital analysis.*



Image 030. *DC-PS. Shanghai-map – Smart-Shanghai digital analysis.*



Image 031. *DC-PS. Shanghai-map – Shanghai-Wow digital analysis.*

Methodologically, the digital corpus was read through qualitative content analysis, where codes under: *types of environment*, *types of social activities*, and *types of transportation system*, were identified in the collected data from comments like "*must-shoot view*", "*brunch street*", "*riverside walk*", and complemented by simple counts of location mentions, in order to use these categories as the variables for study the selected field of research on the following offline phase. This choice of method aligns with content analysis as a systematic approach to making replicable inferences from texts and images to their contexts of use (Krippendorff 2004, 18–21). It also follows interface-sensitive approaches that study how platform metrics, sorting, and visual templates co-produce hotspots (Marres and Gerlitz 2016, 21–46).

The results of this analysis provided the list of the top thirty (30) most popular open-air public spaces within the field of research (2020). See *Image 032*: *DC-PS. Shanghai-map – popular places*. Rated as follow: 1st) The Bund 外滩; 2nd) Nanjing East Road 南京东路; 3rd) People's Square 人民广场; 4th) Xintiandi 新天地; 5th) Wukang Road 武康路; 6th) West Bund / Xuhui Riverside 西岸; 7th) Lujiazui 陆家嘴; 8th) Power Station of Art Riverfront 当代艺术博物馆; 9th) Luxun Park 鲁迅公园; 10th) Found 158巨鹿路 158; 11th) Yu Garden's complex 豫园; 12th) Zhongshan Park 中山公园; 13th) Suzhou Creek riverside 苏州河滨江; 14th) Jing'an Sculpture Park 静安雕塑公园; 15th) Fuxing Park 复兴公园; 16th) Fuming Road 富民路; 17th) International Cruise Terminal国际客运中心; 18th) Huaihai Road 淮海路; 19th) Jing'an Park 静安公园; 20th) Donghu Road 东湖路; 21st) Nanjing West Road 南京西路; 22nd) Anfu Road 安福路; 23rd) Lujiazui Riverfront 陆家嘴滨江; 24th) Wuding Road 武定路; 25th) Houtan-Shibo Riverside 后滩世博湿地公园 in the former 2010 Expo area; 26th) Columbia Circle 上生·新所; 27th) Tianzifang 田子坊; 28th) Century Park 世纪公园; 29th) Hengshan Road 衡山路; 30th) Yuanmingyuan Pedestrian Road 圆明园路.



Image 032. *DC-PS. Shanghai-map – popular places.*



Image 033. *DC-PS. Shanghai-map - map of observations.*

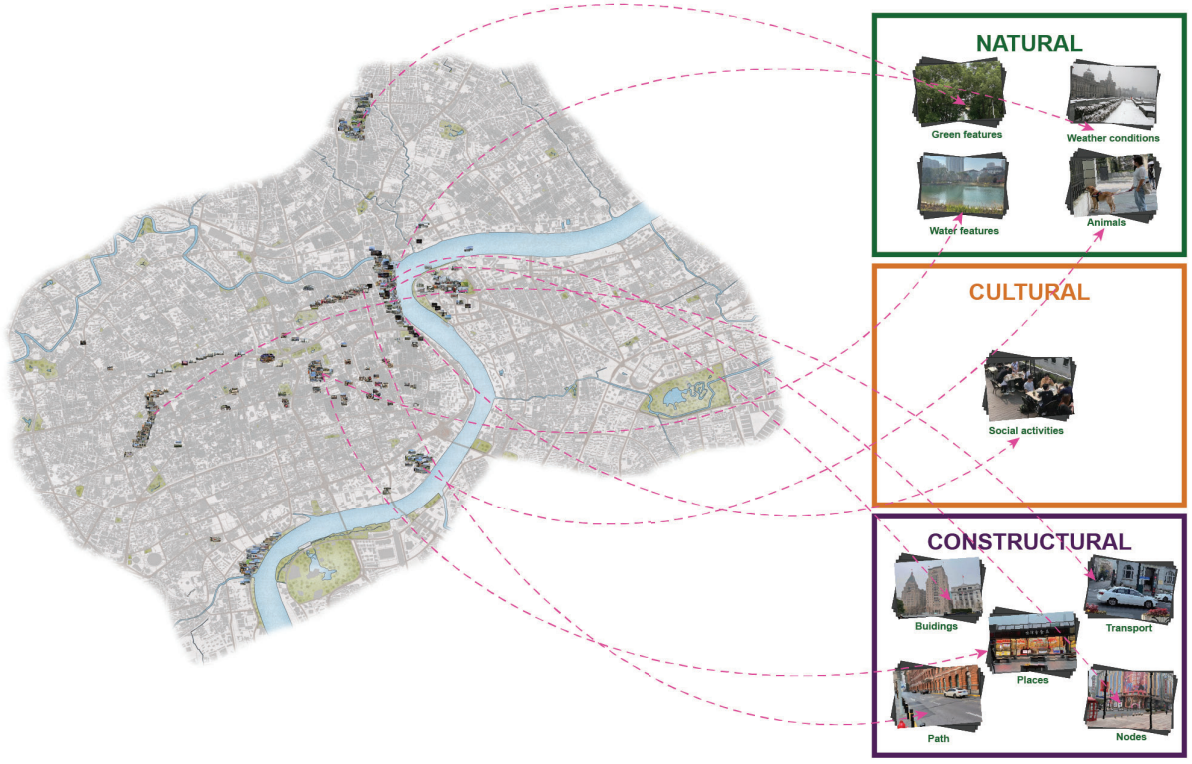


Image 034. *DC-PS. Shanghai-map - categories from observations.*

Field observations of the thirty (30) sites were conducted at different times of day and week, drawing on behavioural mapping techniques to note congregations, movements, and co-present practices (Gehl and Svarre 2013, 21–36). Methodologically, the data collected on the field were sub-coded into including *types of environment*, *types of city stakeholder*, *types of social activities*, and *types of transportation systems* based on *Desirable Cities*' previous preliminary studies. The *types of environment* included *natural*, *cultural* and *constructural*; the *types of city stakeholder*: *city makers* (policymakers, real estate developers, designers, builders) and *city users* (residents, commuters, visitors). The *types of social activities* and *transportation systems* identified during the fieldwork were as many as could be identified. Then, an online research study was conducted with keywords to do an academic literature review of related theories that could provide insights and ways to understand the empirical collected phenomena. From this emerged Lynch's spatial orientation elements, including: "*paths, edges, districts, nodes, and landmarks*", to address how people navigate and conceptualise these open-air public spaces (Lynch 1960, 46–90). The study also included defined categories for field observations: *natural* conditions (*green features*, *water features*, *weather conditions,* and *animals)*, *cultural* conditions (*social activities), and constructural* conditions *(buildings*, *places,* and *type of transport*), and the theories of the spectacles, imaginaries and mimetic desires that were addressed in the following empirical experiments. See previous *Image 033*: *DC-PS. Shanghai-map – map of observations*, and *Image 034*: *DC-PS. Shanghai-map – categories from observations*.

This round of Shanghai's mapping demonstrated that media-driven spectacles have a significant influence on public perceptions, particularly at iconic locations, such as Nanjing East Road (南京东路), the Bund (外滩), Lujiazui (陆家嘴) and picturesque small streets at the former Shanghai's French Concession, like the following phenomenon recorded in Donghu Road (东湖路). From these protocols, the previously identified categories of the environment (*natural*, *cultural*, and *constructural*), and city stakeholders (*city makers* and *city users*) were consolidated, and new theories were introduced to capture recurrent patterns. See *Image 035: DC-PS. Shanghai-map – digital spectacles of urban experiences*, and *Image 036*: *DC-PS. Shanghai-map – physical mimetic behaviour of urban experiences from spectacles*. These images show how digital popular posts from different influencers, like in *Image 034*, influenced people like in *Image 035*, where three individuals, positioned next to each other, without any interaction with each other except with their own photographers assistants, to recreate a curated scenario mimicking the images from the popular posts, to catch that curated "experience" in the same popular

terrace at Donghu Road, nearly identical in composition: individuals seated at a small terrace table, “enjoying” a colourful cocktail, a pizza, a pasta dish, a coffee and a cake, all at once, far exceeding what a single diner would realistically consume. This suggests that at times, the role of imageries can surpass the actual experience, much like a meal or relaxing on an outdoor terrace, with a nice spring weather. The repetition of angles, the near synchronous posing, and the conspicuous duplication of “signature” items across tables, echo the compositional conventions on the corresponding social media feeds, where the same logic appeared in the digital layer. Together, these scenes illustrate a loop whereby curated content triggers on-site practices and mimics digital platforms’ influence (Debord 2005, 7–17; Urry 2002, 148). They also resonate with scholarship on influencer cultures that document how platform fame organises props, poses, and settings for maximum shareability (Abidin 2016, 86–100; Marwick 2015, 137–60).

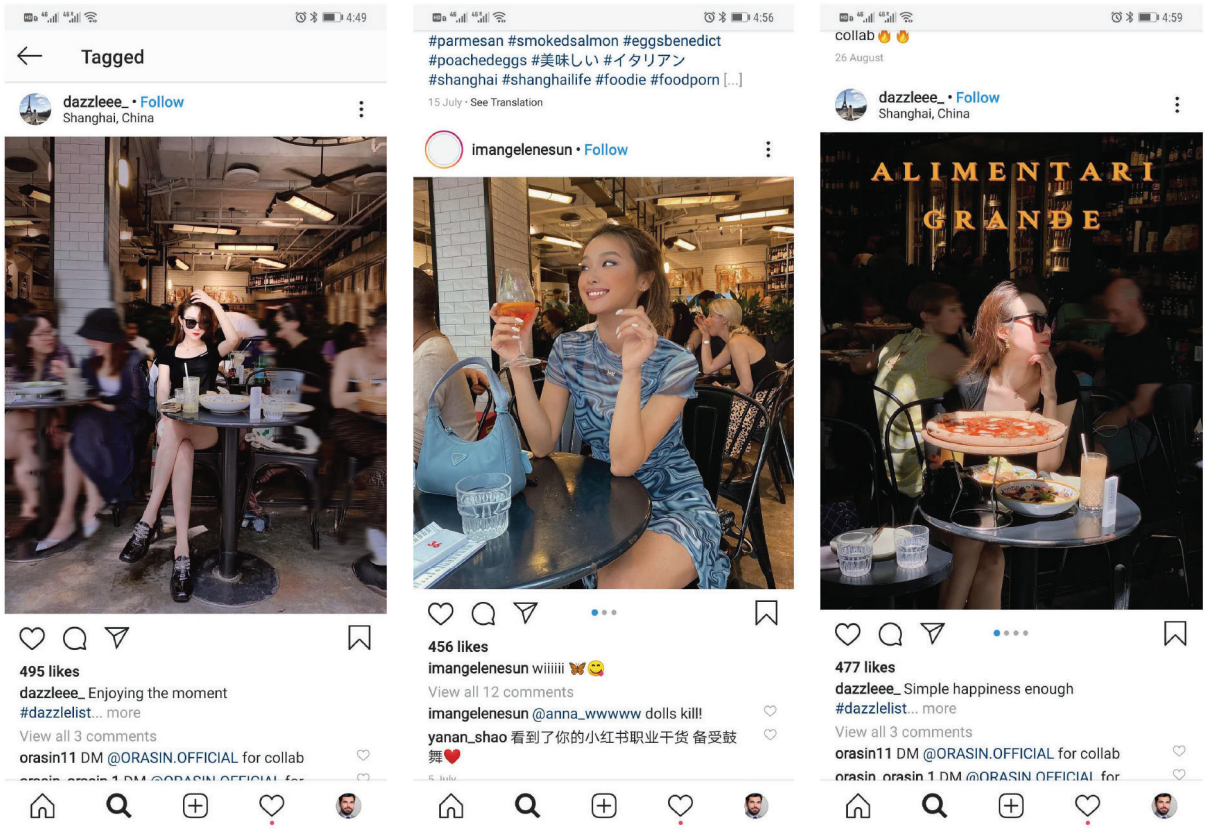


Image 035. *DC-PS. Shanghai-map - digital spectacles of urban experiences.*



Image 036. *DC-PS. Shanghai-map - physical mimetic behaviour of urban experiences from digital spectacles.*

The pattern of repetition visible in these images is not explained by individual preference alone; it is consistent with theories of mimetic desire, which state that others' displays mediate what is wanted and how it is performed (Girard and Doran 2008, 276–89). While this phenomenon is from Shanghai, *Desirable Cities*' lead researcher observed similar behaviour on his architectural and interior design projects in the American and European continents, emphasising that such spectacle-driven loops are not culturally specific but globally influence urban desirability.

Considering that such behaviours are urban manifestations of social communication, it became paramount to study the coding and references of these urban messages, as well as the relationship between those creating these messages and the people reading and consuming them. These communication variables ("*code*", "*reference*", "*sender*" and "*receiver*") led *Desirable Cities* to study and adapt Jakobson's communication model to understand these behaviours. These interpretations suggested that the imageries and spectacles (message), their contexts (the morphology and archetypes, like cafes' terraces and promenades), and channels (digital posts and physical poses) act together as shared meanings of *desirable* urban experiences (Jakobson 1978, 350–77). In this sense, the *Shanghai-map* provides a macro-level account of how public *desirability* is semiotically constructed across digital and physical experiences and layers of communication.

In terms of methodological rigour, the phase followed a triangulated design across data types (digital traces/field notes), times (weekday/weekend; day/night), and open-air public spaces (sightseeing, squares, commercial spaces, etc). Such cross- checks align with the classic articulation of triangulation, combining methods and data sources to enhance validity (Jick 1979, 602–11). Ethical protocols were implemented during observation and image capture in crowded settings, notably regarding consent, privacy, and non-maleficence, which are issues widely discussed for qualitative fieldwork in public/semi-public domains (Christians 2009, 140–46).

Therefore, the *Shanghai-map* established that physical environments, social dynamics, and digital portrayals jointly influence how open-air public spaces are perceived and enacted. This finding supports the broader claim that urban space is an articulation of the *natural*, *cultural* and *constructural* environment, aligning as well with the theory of Lefebvre of space as a "*social product*" made through practices, representations, and representational images (Lefebvre 2013, 26–27). This macro-cartography also revealed the limits of inference from crowds and feeds alone, motivating subsequent phases focused on participants' situated interpretations. This showed how platform

spectacles and on-site practices co-produce what becomes "*desirable*", but it could not surface the words people themselves use to frame those desires. *Desirable Cities,* introduces next an on-site linguistic elicitation (*Question-naire*) to hear stakeholders verbalise *desirability* and its references.

4.6.2. The *Question-naire*

Building upon the insights from *Shanghai-map*, the *Question-naire* phase introduced a linguistic and interactional lens to examine how diverse urban stakeholders verbally construct "*desirability*" in situ. Consistent with a *Pragmaticism* approach, the unit of analysis was not abstract notions of place but the observable practical bearings of signs on conduct, how messages encountered and recalled by participants (reviews, posts, word-of-mouth, signage, imaginaries) orient what they do and say in specific settings (Peirce 1960d, 388–410). The design of this new empirical study continues drawing from Jakobson's model of communication to attend to "messages", "code", "contact", and "context"; and on Lefebvre's proposition that urban space is a "*social product*" that conjoins material arrangements and representational practices (Jakobson 1978, 353–57; Lefebvre 2013, 26).

Over five months, semi structured intercept interviews were conducted at three high-traffic, open-air sites selected to vary context and typical publics: the Bund (外滩), an iconic waterfront draw for international and domestic visitors; People's Square (人民广场), a metropolitan park at the confluence of several districts; and Xintiandi (新天地), a popular commercial/pedestrian open-air public space frequented by residents, commuters, and local and foreign visitors. Thirty individuals (*P01–P30*) were approached in public circulation areas and invited to a brief conversation (5–10 minutes). While qualitative inquiry does not predicate rigour on large samples, the achieved number aligns with widely cited evidence that many common themes in focused, relatively homogeneous inquiries stabilise early (often within ten interviews), particularly at the level of high-frequency concepts (Guest et al. 2006, 59).

Each exchange was anchored in two printed prompts shown to participants:

1. "How do you know about this place?"
2. "What is the most attractive thing about this place to you?"

Interviewers then used brief, conversational “second questions” to probe and clarify replies without steering content. For example, “Huh! What did he/she say?” if the participant was leading towards social interactions; “Huh! This area has many places; why did you choose this one?” if the participants answer were leading to proximity/ choice; “Wow! Can I see it?” if the participants were leading towards advertising/media; and “Huh! Why do you like it?” utilised as a universal prompt. This sequencing follows best practice for semi-structured interviewing, where the core schedule is complemented by in-the-moment probes that invite elaboration while preserving participants’ categories and language (Kvale and Brinkmann 2009, 123– 41). Visual summaries of the participant sheet and the interviewer’s diagram are shown in *Image 037*: *DC-PS. Question-naire – Questions for participant*, and *Image 038*: *DC-PS. Question-naire – Questions for interviewer*.



Image 037. *DC-PS. Question-naire - questions for participants.*

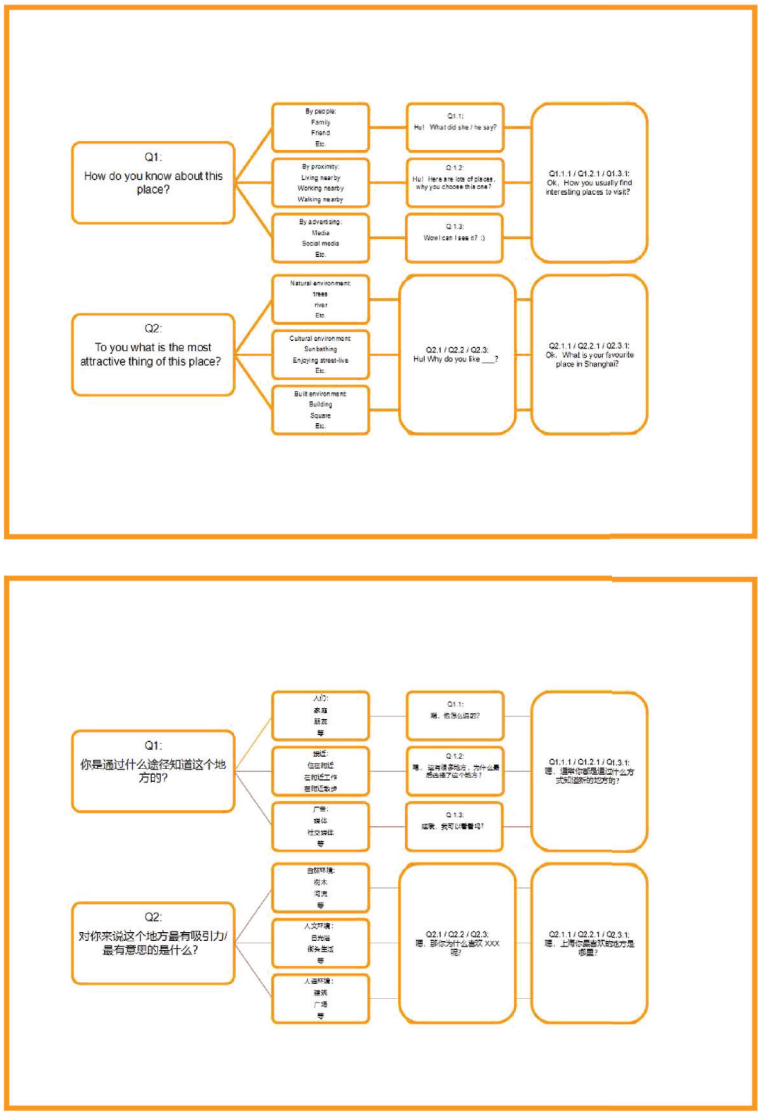


Image 038. *DC-PS. Question-naire - questions for interviewer.*

Field notes were taken throughout the entire process. Participants' responses were consolidated and coded through spatial contextualisation and combined qualitative content analysis. For the spatial contextualisation, Lynch's method of mapping the exact location of urban ethnographic processes with relevant information was applied to map the places and times of each interview (Lynch 2006, 267). Content analysis was used as a systematic technique for making replicable and valid inferences from textual responses to their contexts of use (Krippendorff 2004, 18), using the categories *people*, *proximity* and *advertising* as the measurement categories for the first anchor question (Q1), and *Desirable Cities*' environmental triad (*natural*, *cultural* and *constructural -built-*) as the measurement categories for the second anchor questions (Q2). Finally, matrices were used to relate spatial contextualisation components (also measured as *natural*,

cultural and *constructural -built-*) and content analysis of (Q2) to evaluate participants' preferences (Miles et al. 2014, 69–104).

Across sites, participants frequently attributed their initial awareness to social media, review platforms or friends' images/posts (*"I saw it on Xiaohongshu / WeChat Moments / Instagram"*), corroborating the communicative pathway from mediated message to action in place (Jakobson 1978, 353–57). When asked what they found most attractive, respondents routinely gestured to immediately visible cues, for example, view lines to the skyline of Lujiazui at the Bund, a fountain or façade at Xintiandi, a shaded seating cluster or pond at People's Square. This indicated that the framing of the physical scene powerfully scaffolds verbal description in the moment. Yet many struggled to articulate intangible sensory or affective qualities (light, breeze, soundscape, *ambience*), defaulting to generic adjectives (*"nice, beautiful, interesting"*). This limitation is well documented in sensory ethnography, which argues that much situated knowing exceeds what can be readily verbalised in interview talk alone (Pink 2015, 73–76).

See *Image 039*: *DC-PS. Question-naire - the Bund – interviews' locations*, *Image 40*: *DC-PS. Question-naire - the Bund – interviews' answers*, *Image 041*: *DC- PS. Question-naire - the Bund – interviews' results*, *Image 042*: *DC-PS. Question- naire - People's Square – interviews' locations*, *Image 043*: *DC-PS. Question-naire - People's Square – interviews' answers*, *Image 044*: *DC-PS. Question-naire - People's Square – interviews' results*, *Image 045*: *DC-PS. Question-naire - Xintiandi – interviews' locations*, *Image 046*: *DC-PS. Question-naire – Xintiandi – interviews' answers*, and *Image 047*: *DC-PS. Question-naire – Xintiandi – interviews' results*.

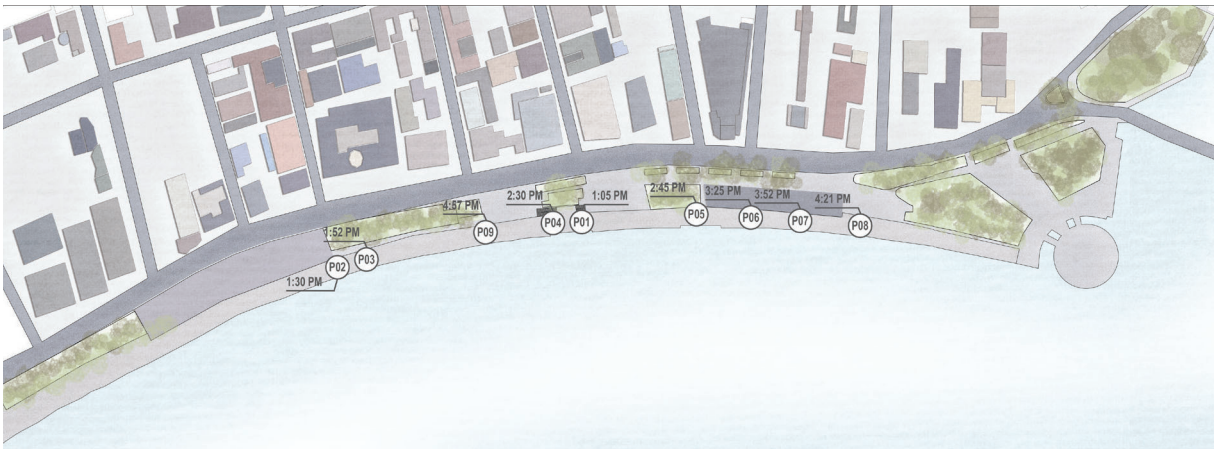


Image 039. *DC-PS. Question-naire - the Bund - interviews' locations.*

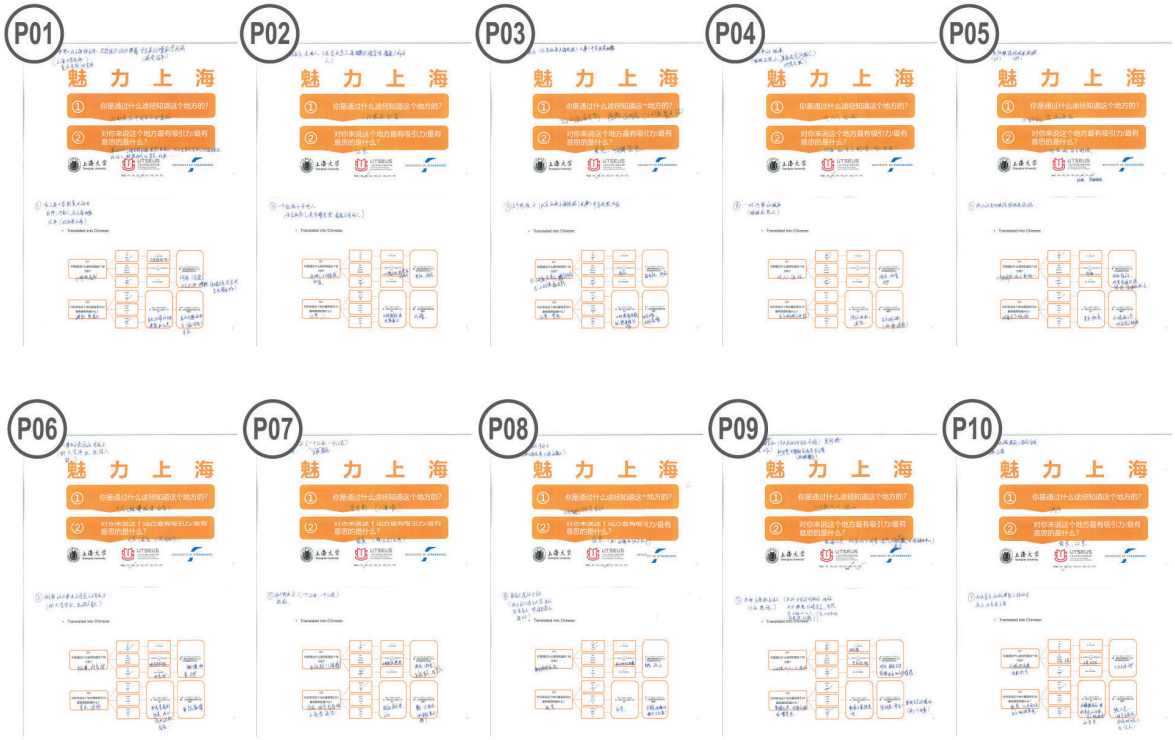


Image 040. *DC-PS. Question-naire - the Bund - interviews' answers.*

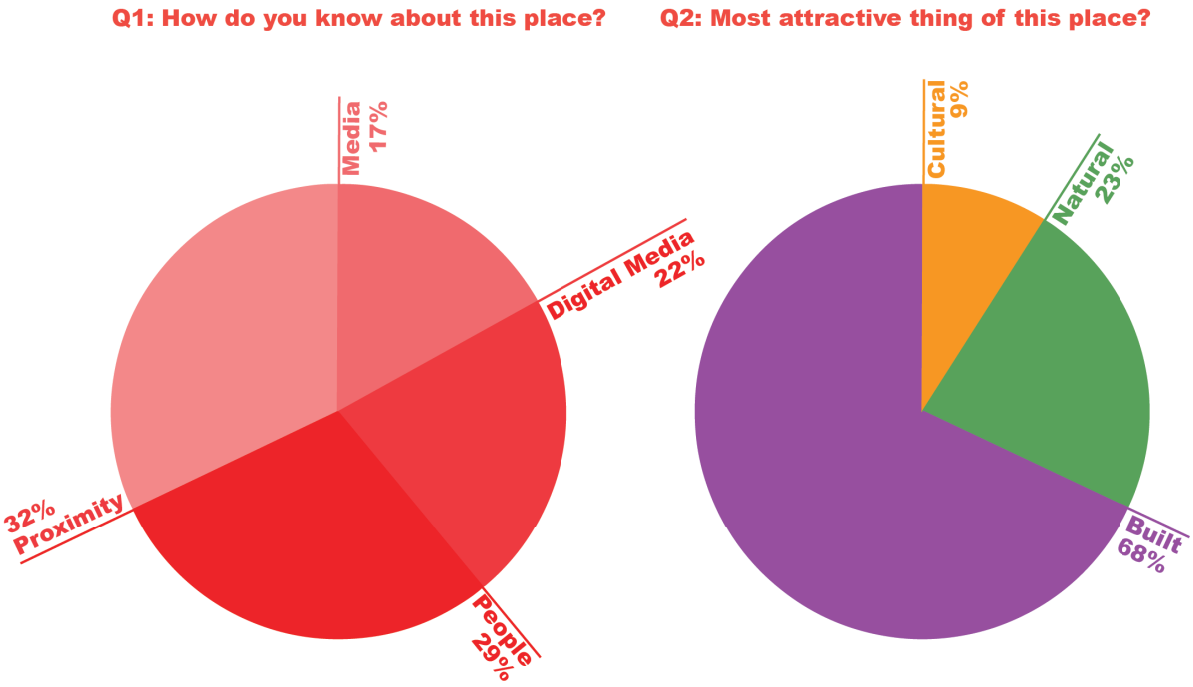


Image 041. *DC-PS. Question-naire - the Bund - interviews' results.*



Image 042. *DC-PS. Question-naire - People's Square - interview's locations.*

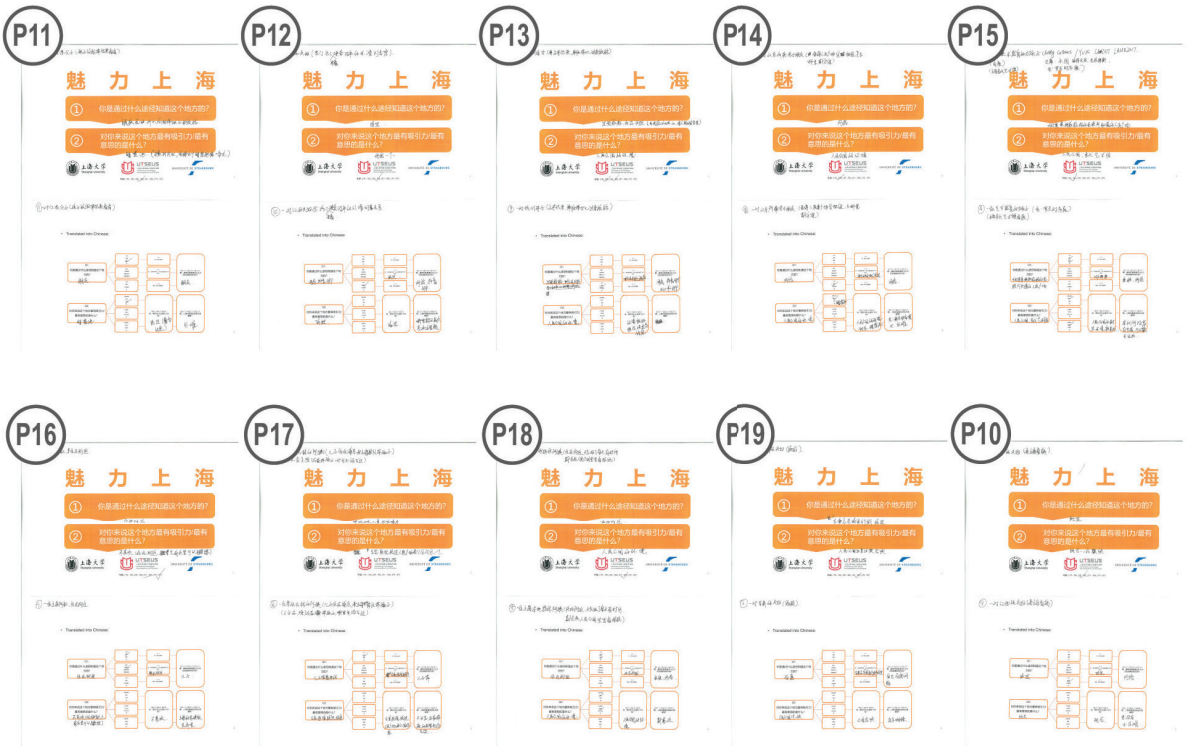


Image 043. *DC-PS. Question-naire - People's Square - interviews' results.*

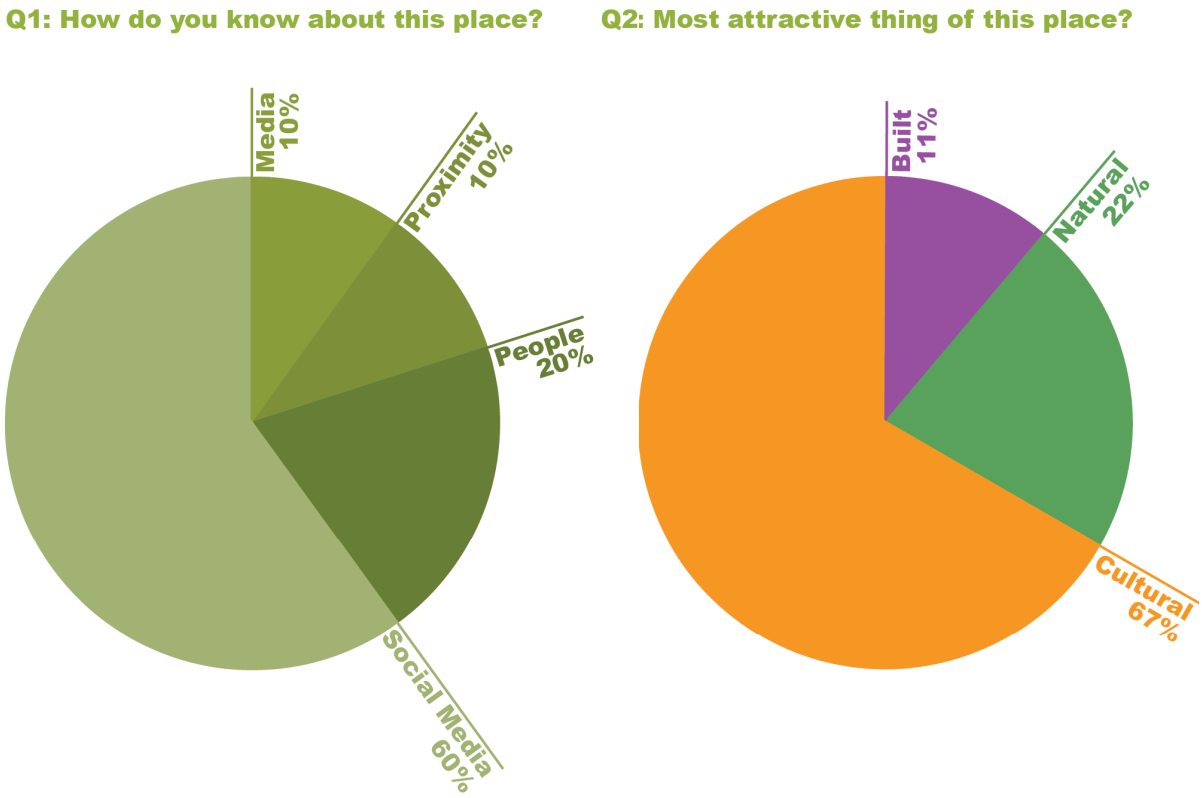


Image 044. *DC-PS. Question-naire - People's Square - interviews' results.*

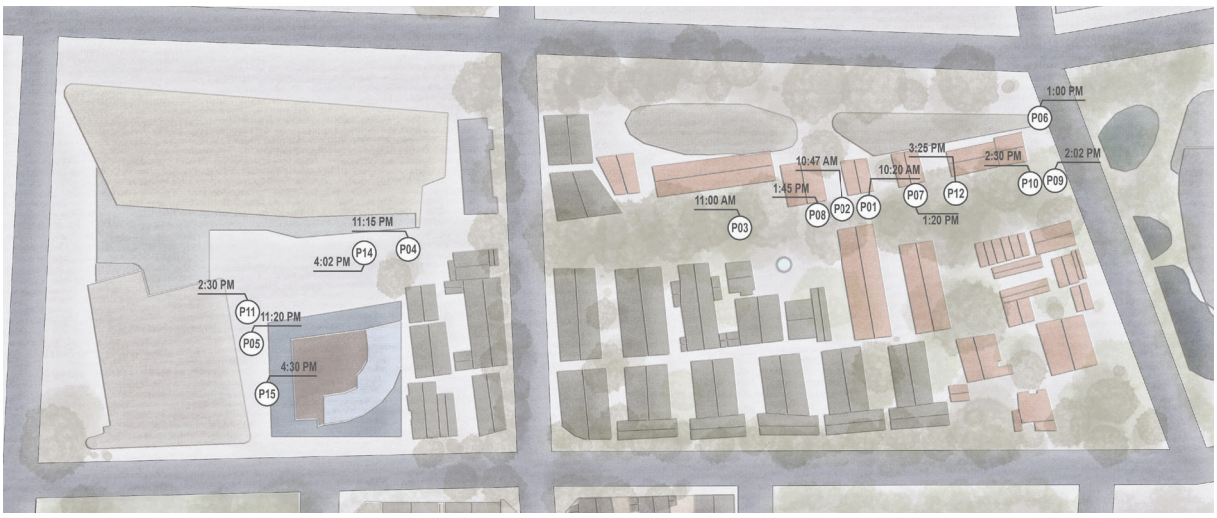


Image 045. *DC-PS. Question-naire - Xintiandi - interviews' locations.*

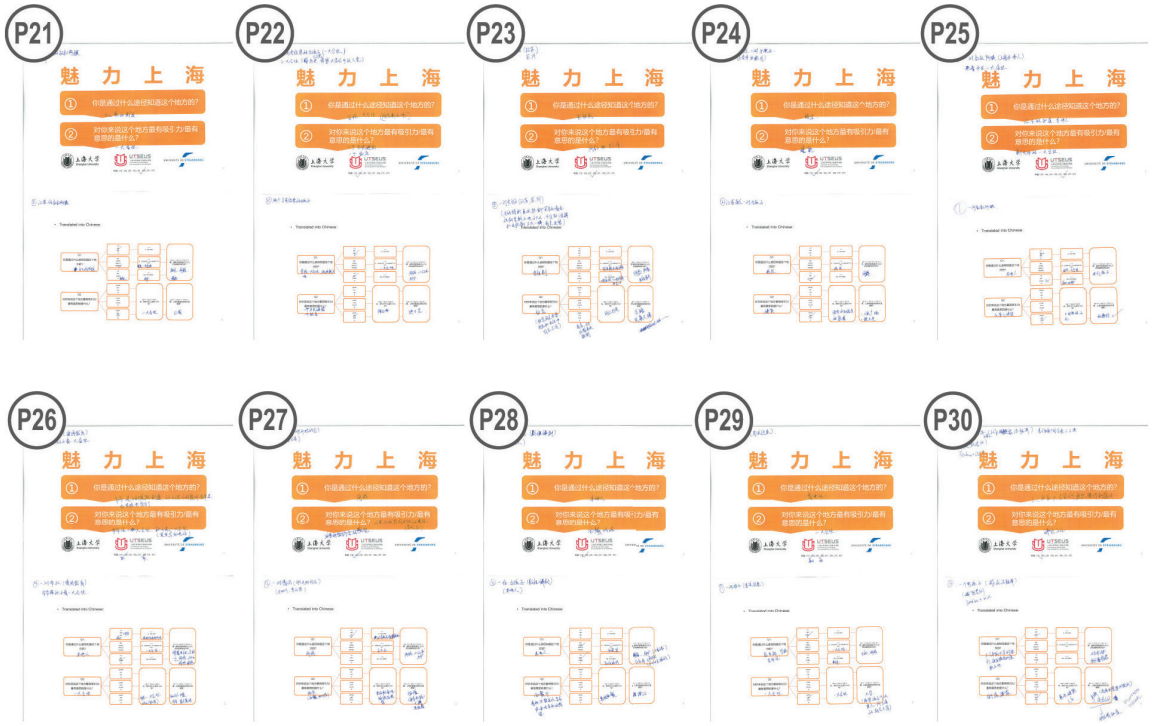


Image 046. *DC-PS. Question-naire - Xintiandi - interview's answers.*

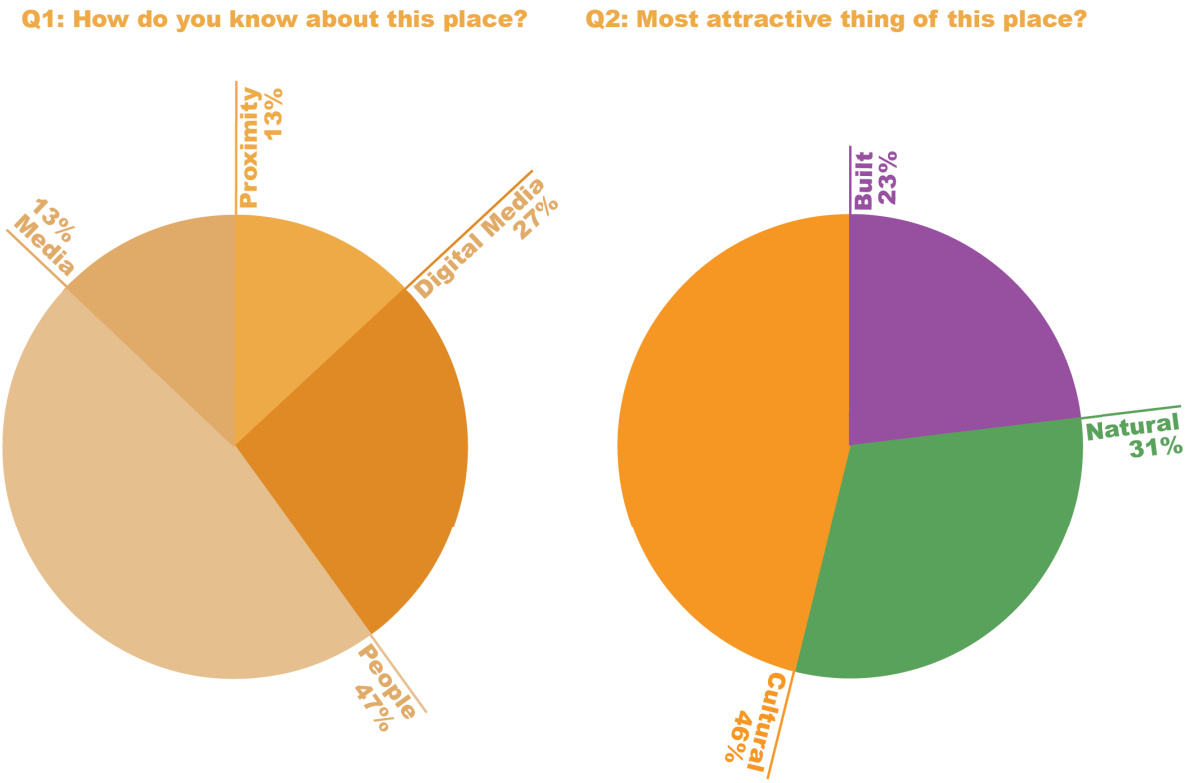


Image 047. *DC-PS. Question-naire - Xintiandi - interviews' results.*

Responses were noticeably indexical to micro-position. In Xintiandi, participants standing near the fountain referenced water and gathering; at a corner, they referenced flows and edges, even when their destination lay elsewhere. On the Bund, references clustered around landmark vistas and photo-spots; in People's Square, greenery, shade and respite were salient. However, several respondents explicitly cited discovering the park via online searches before visiting. These patterns reinforce that utterances emerged at the intersection of immediate perceptual fields and prior mediated images, precisely the nexus this phase sought to elicit.

The persistence of generic descriptors and the difficulty of naming multisensory and affective dimensions underscored the limits of relying on language alone in visually and auditorily saturated environments. Methodologically, this finding supported a planned transition toward visual/multimodal elicitation in subsequent phases, aligning with the interpretive move from thin to thicker description (Geertz 2017, 3–30) and with approaches that treat interviews themselves as sensorial encounters (Pink 2015, 73–76).

Regarding ethics and research responsibilities, interviews were conducted in public, non-obstructive locations; no personal identifiers were collected beyond opt-in pseudonyms (*P01–P30*). Informed, voluntary participation, the right to disengage, and sensitivity to photography near private premises or individuals were observed in line with ethical guidance for qualitative fieldwork (Christians 2009, 144–48). While the aim here was rapid, context-bound elicitation, the sample size and the convergence of responses across sites provided adequate thematic coverage for the study's exploratory purpose (Guest et al. 2006, 59–60); subsequent visual phases were designed to deepen, triangulate, and test emergent categories across methods and media.

Field schematics and code summaries are compiled in *Image 048*: *DC-PS. Questionnaire - interview results*, with site-specific tabulations for the Bund, People's Square and Xintiandi (locations and results). This image makes explicit the analytic path from raw utterance to categories and cross-site comparison (Miles et al. 2014, 77– 93).

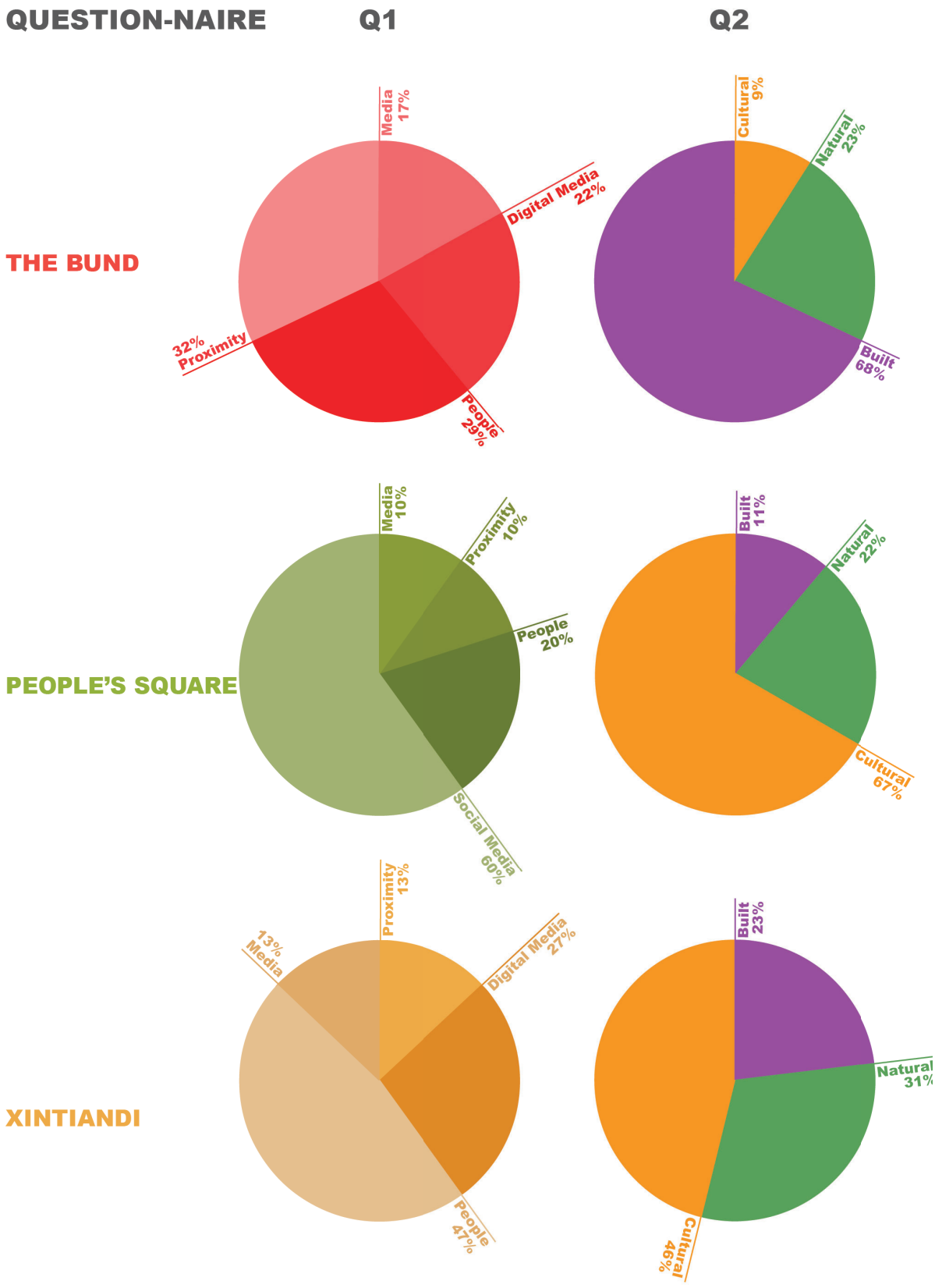


Image 048. *DC-PS. Question-naire - interviews' results.*

This phase clarified the communicative chain through which desirability is circulated and stabilised: mediated messages (posts, ratings, word-of-mouth) prime expectations; onsite cues then anchor talk and conduct; participants' own narratives feed back into the mediated stream, reinforcing shared images of place. Framed through Peirce's semiotic maxim, the meaning of these place-images is read in their practical bearings on selection, movement and attention in the city, now from a *Pragmaticism* lens (Peirce 1960d, 388–437). Framed through Jakobson, the functions of messages (referential, emotive, conative, phatic, metalingual, poetic) help explain why some cues and captions travel and others do not (Jakobson 1978, 353–57). And framed through Lefebvre, these findings substantiate that *desirability* is co-produced by material settings, social practices and representational circuits, an empirical premise that justified the project's subsequent shift toward visual and semiotic (*Picture-naire*) elicitation to capture what verbal prompts alone could not (Lefebvre 2013, 26–31).

4.6.3. The *Picture-naire*

Building directly on the *Question-naire*'s finding that language alone could not capture the subtleties of lived urban experience, the *Picture-naire* changed the approach to a visual-anthropological protocol. Over five (5) months, this third empirical phase invited participants to make images and then "write on" them, operationalising visual elicitation to surface perceptions that had proved difficult to verbalise in the field. The experiment was conducted at People's Square (人民广场) and Xintiandi (新天地), with eight (8) participants recruited opportunistically at each site (*P31–P46*). Participants were asked to photograph elements they found appealing or significant, and then to annotate their own photos with a stylus on a tablet; the research team also captured a 180-degree context panorama centred on each selected motif to situate the participant's focal choice within its surrounding spatial field. This design follows established visual-methods practice: using participant-generated images to elicit richer accounts ("*photo-elicitation*") and to foreground lay seeing and situated knowledge ("*photovoice*") (Clark-Ibáñez 2004, 1507–13; Harper 2002, 13–15; Wang and Burris 1997, 369–77). It also aligns with sensory ethnography's insistence that interviews can be materially mediated to draw out multisensory remembering and noticing (Pink 2015, 73–76; 117–21). See *Image 049*: *DC-PS. Picture-naire – table and stylus*.



Image 049. *DC-PS. Picture-naire - tablet and stylus.*

Participants received a brief prompt: "*Photograph the features of this place that you find most attractive or meaningful, take one or more photos, and immediately highlight the specific elements that matter to you on the screen*". The researcher then shot an aligned 180-degree panorama to register the broader spatial situation of the chosen element. This pairing: participant focus + context, let *Desirable Cities* compare micro-selections with their macro-setting and thereby examine how attention is distributed, occluded, or amplified by nearby affordances and flows. Visual elicitation is well-documented to deepen interviews by mobilising memory and tacit knowledge beyond what spoken prompts alone achieve (Clark-Ibáñez 2004, 1507–11; Harper 2002, 13–14), while the context panorama resonates with visual methods guidance to read images in relation to their production, circulation and audience (Rose 2016, 17– 20; 36–37).

The following images present, for each interview, the original photo, the participant-marked overlay, and the 180-degree contextual comparison. See *Image 050*: *DC-PS. Picture-naire – People's Square – interviews' locations*, *Image 051*: *DC- PS. Picture-naire – People's Square – P31-P34's images*, *Image 052*: *DC-PS. Picture-naire – People's Square – P35-P38's images*, See *Image 053*: *DC-PS. Picture-naire – People's Square – interviews' results*, *Image 054*: *DC-PS. Picture-naire – Xintiandi – interview's locations*, *Image 055*: *DC-PS. Picture-naire – Xintiandi – P39-P42's images*, *Image 056*: *DC-PS. Picture-naire – Xintiandi – P43-P46's images*, *Image 57*: *DC-PS. Picture- naire – Xintiandi – interview's results*, and *Image 058*: *DC-PS. Picture-naire – interviews' results*.



Image 050. *DC-PS. Picture-naire - People's Square - interviews' locations.*

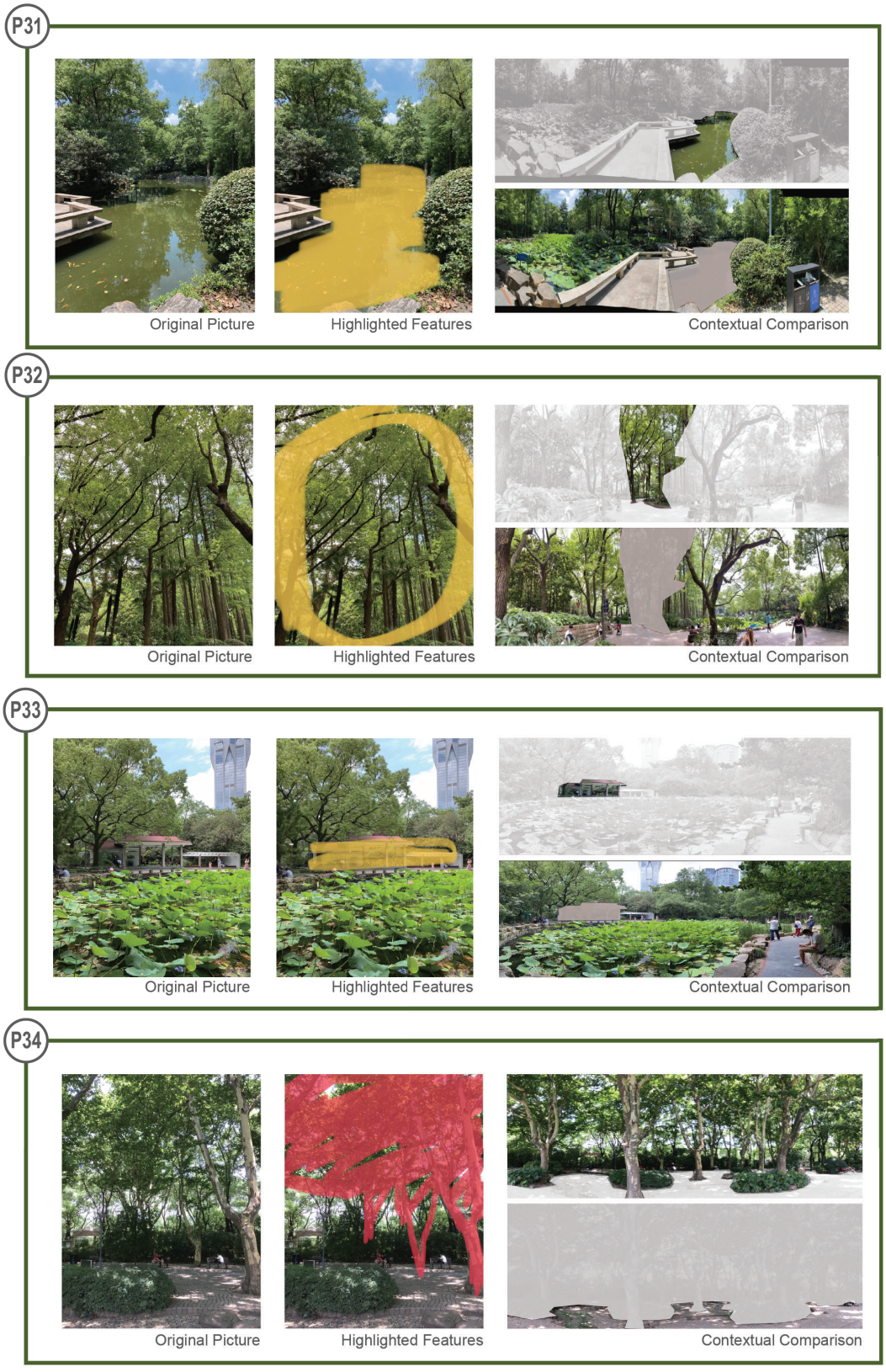


Image 051. *DC-PS. Picture-naire - People's Square - P31-P34's images.*

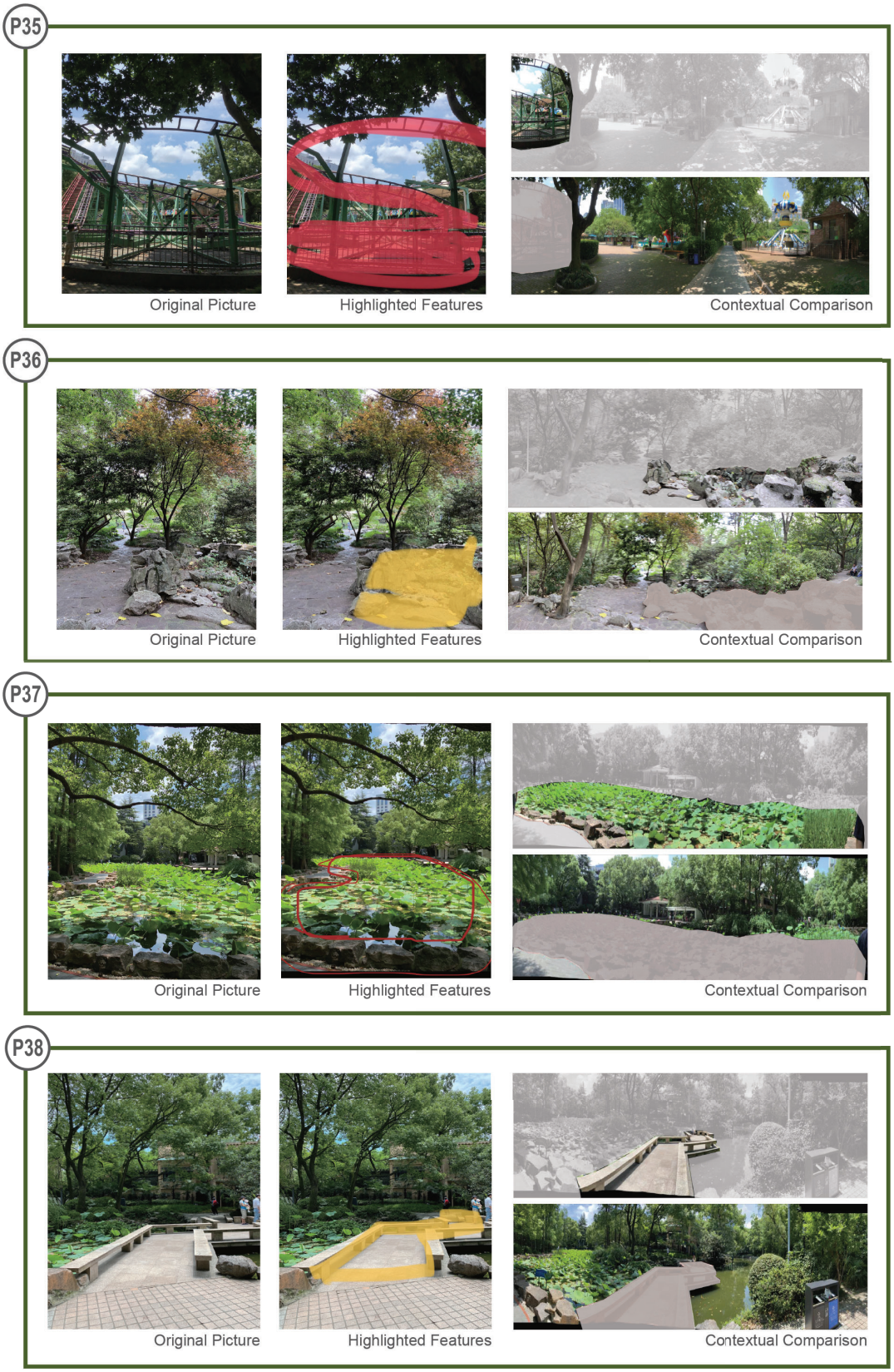


Image 052. *DC-PS. Picture-naire - People's Square - P35-P38's images.*

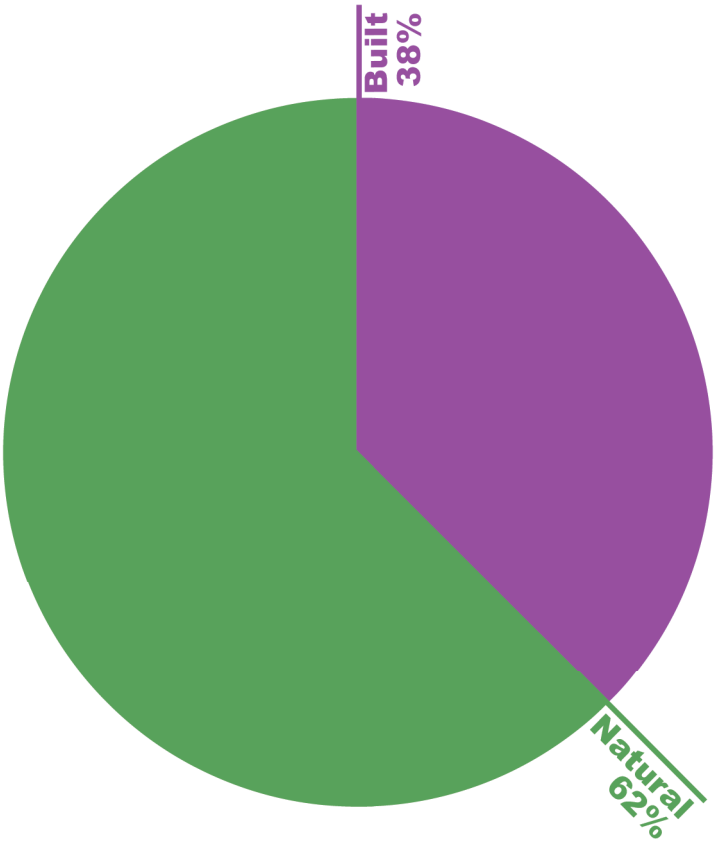


Image 053. *DC-PS. Picture-naire - People's Square - interviews' results.*

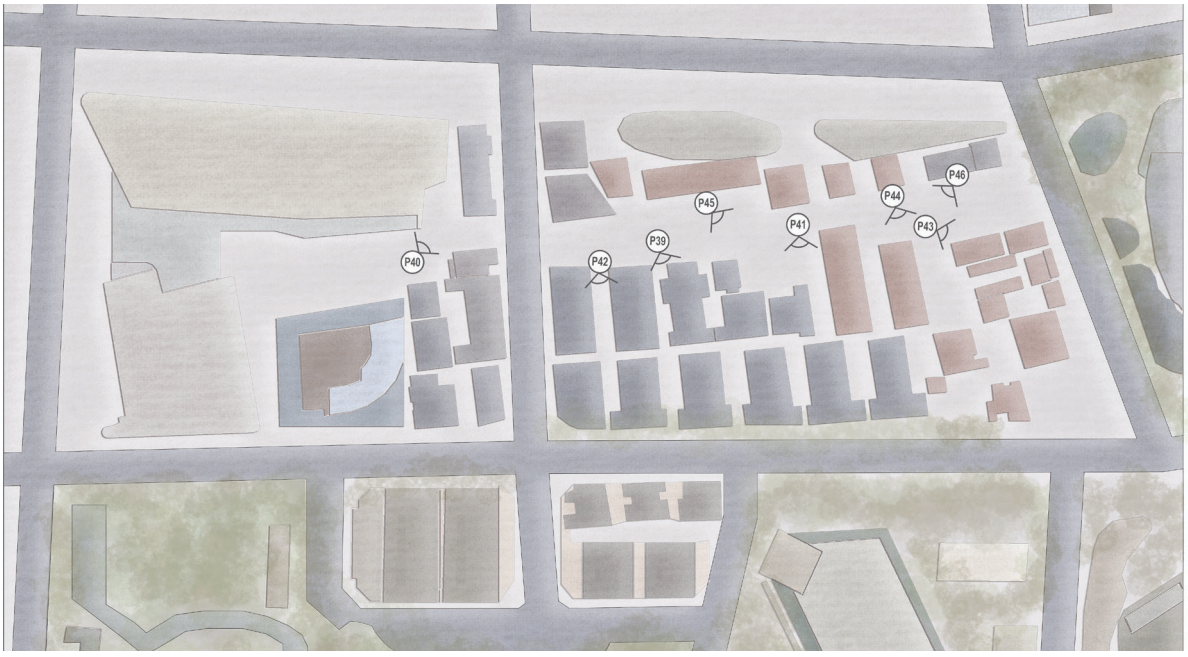


Image 054. *DC-PS. Picture-naire - Xintiandi - interview's locations.*

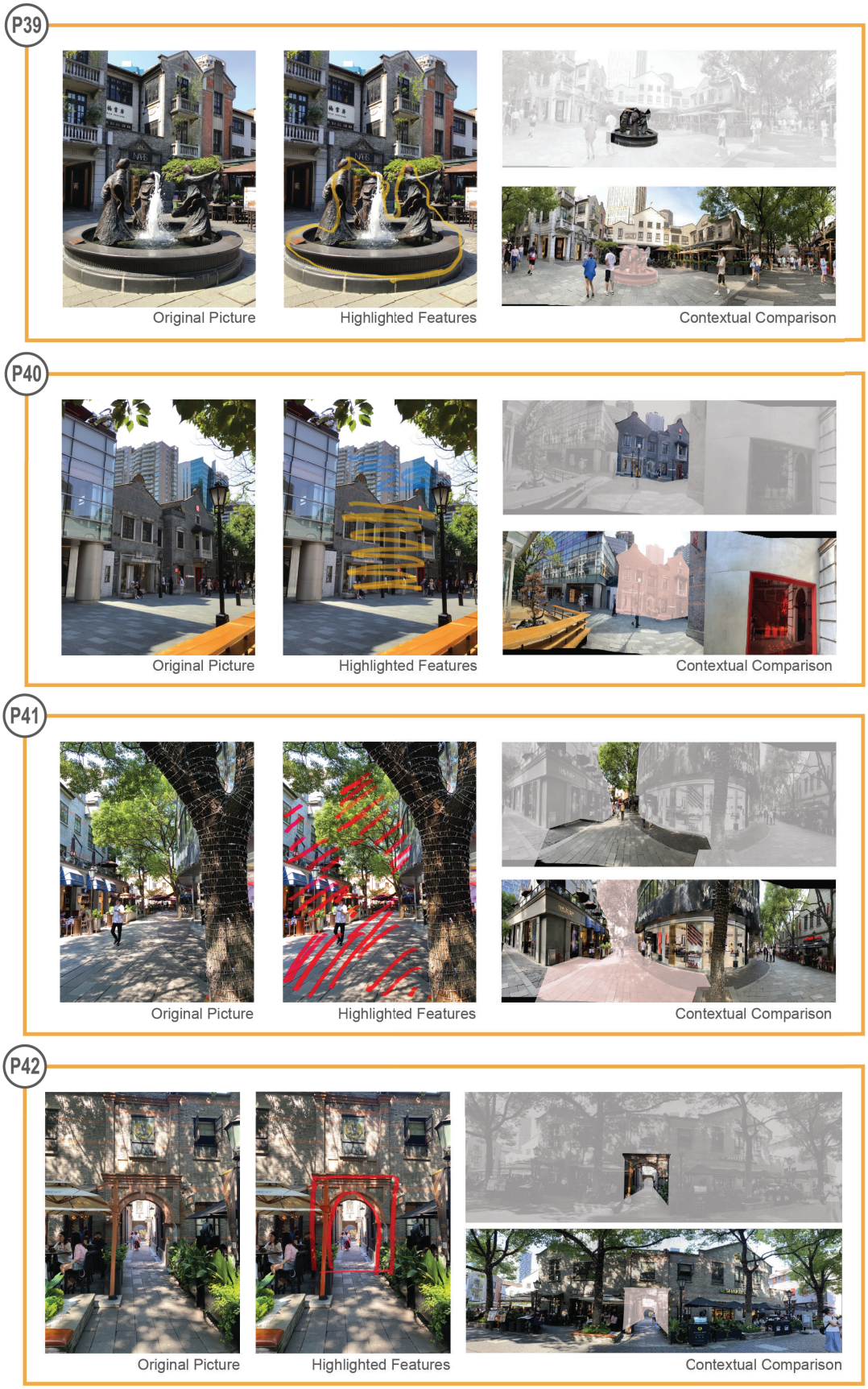


Image 055. *DC-PS. Picture-naire - Xintiandi - P39-P42's images.*

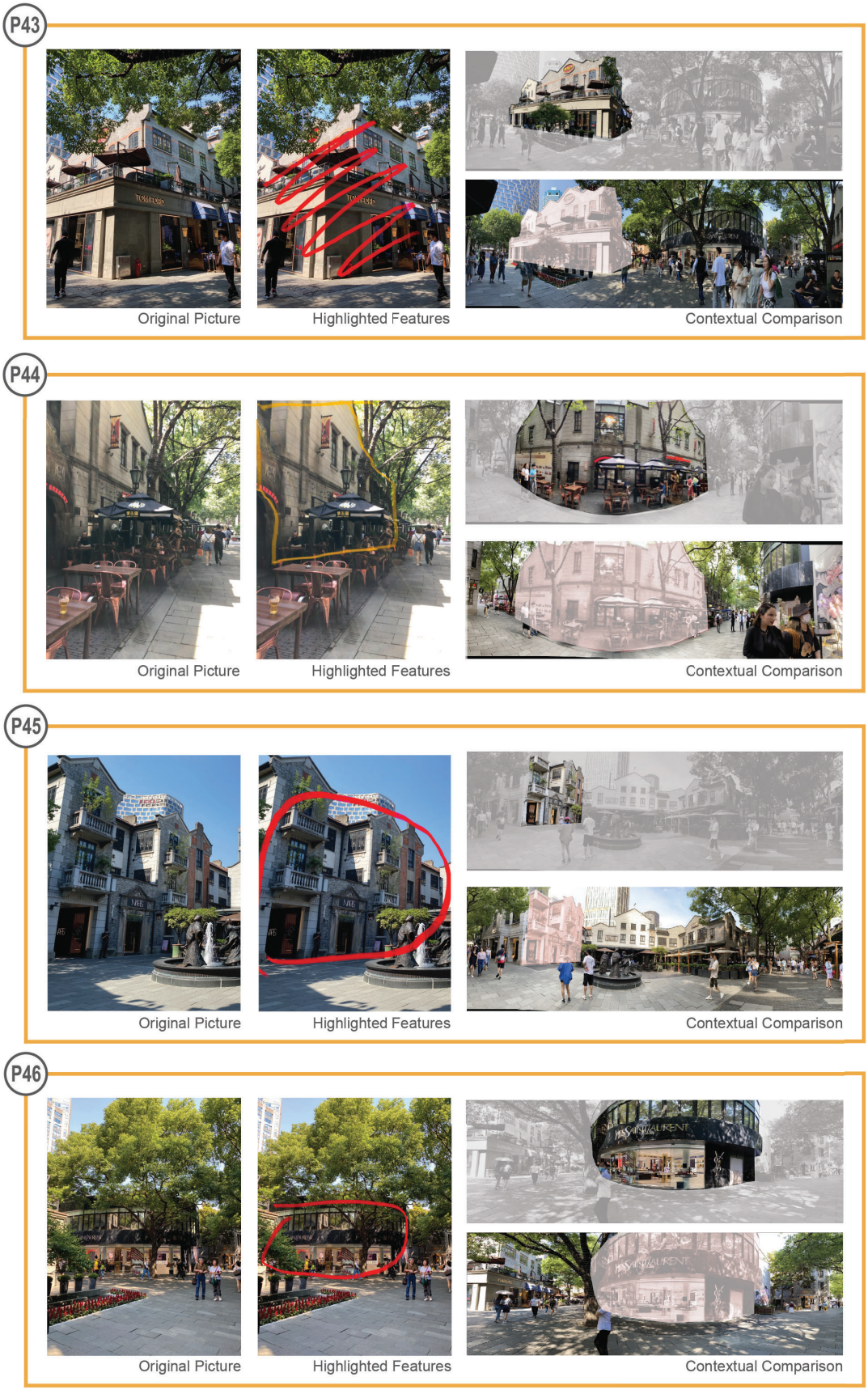


Image 056. *DC-PS. Picture-naire - Xintiandi - P45-P46's images.*

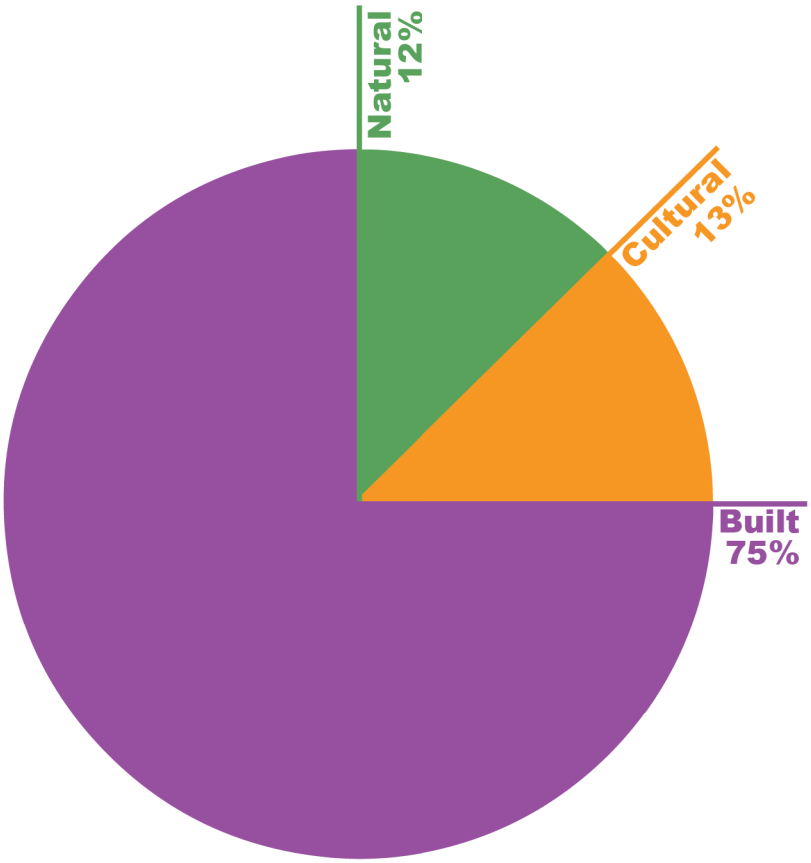


Image 057. *DC-PS. Picture-naire - Xintiandi - interviews' results.*

Analysis proceeded in three passes: Descriptive coding, relational reading, and cross-case patterning. Descriptive coding of each participant's annotated image, labelling what the mark foregrounded, e.g., "canopy shade", "corner café threshold", "reflecting water", or "shopfront ornament" (Saldaña 2009, 70–81). Relational reading of the paired panorama against the focal mark to identify what aspects of the broader setting likely scaffolded the selection, e.g., visibility fields, seating availability, proximities, and overlaps. This stage drew on Gibson's notion of "affordances" in environmental features that are action-relevant invitations, which facilitate articulating why particular edges, textures, or objects attract attention in situ (Gibson 2015, 121– 27; 151–52). Cross-case patterning across the sixteen interviews to note recurrent emphases (e.g., water edge repose; framed prospects; sociable thresholds) and systematic differences and similarities. This mixed visual-qualitative strategy is consistent with sensory ethnography's analytic handling of multimodal records and with visual-methods best practice to read images across the fields of research, the image itself and its circulation/audience (Pink 2015, 141–45; Rose 2016, 17–37).

Participants adopted the method readily and produced legible highlights of what "mattered" at eye level. In People's Square, marks clustered around water edges,

shade canopies and quiet corners; in Xintiandi, they concentrated on framed vistas, café thresholds and the fountain forecourt. The panel series shows how the contextual panorama frequently made visible the structural reasons for the appeal: benches and canopy cover adjacent to water; framed sightlines created by building offsets; or social density gradients that signalled "*where to be*". In Peirce's terms, many spaces' marks or "*representamen*" functioned iconically (tracing the look of a texture or silhouette), but their attraction typically rested on indexical ties to situational affordances (shade, seating, proximity to others) and on symbolic overlays (e.g., a fountain as a recognised meeting place), however, the key aspects of interpretations lays in the triadic interplay of space ("*object*"), its perceptions ("*representamen*"), and consequent interpretation ("*interpretant*") (Peirce 1960c, 227–73), which the *Picture-naire* made pragmatically inspectable in vivo. See *Image 058*: *DC-PS. Picture-naire - results*.

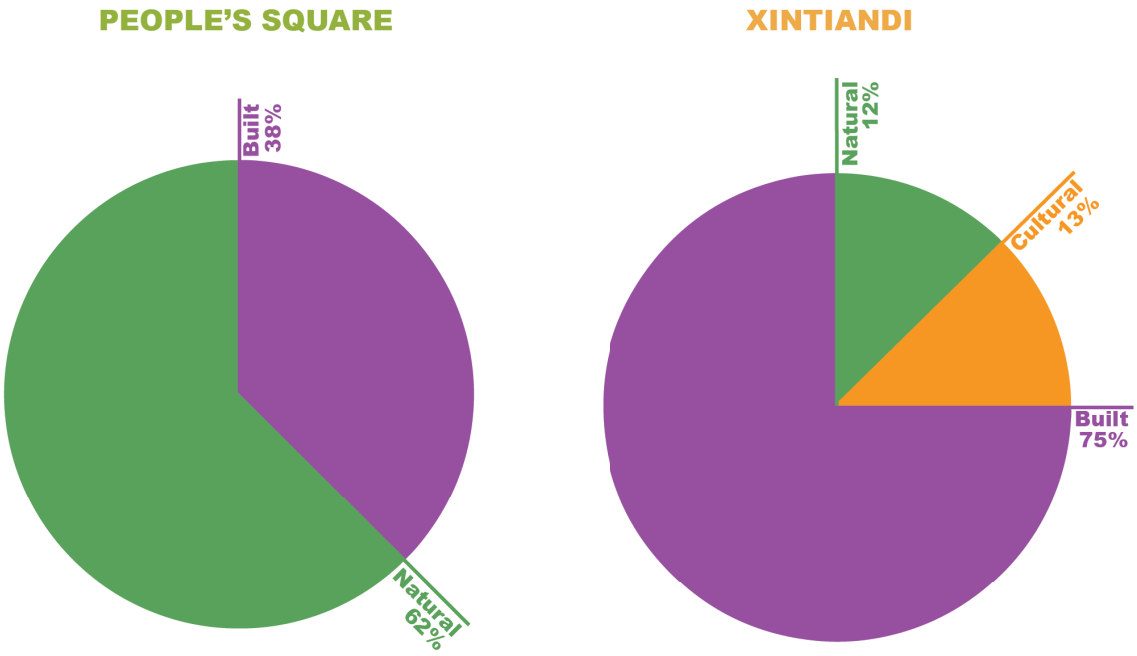


Image 058. *DC-PS. Picture-naire - results.*

Methodologically, the *Picture-naire* strengthened validity and transparency in four ways: participant-generated data, context capture, auditable coding, and *Pragmaticism* alignment. Allowing participants to compose and annotate their own images reduces researcher-imposed framings and elicits tacit, promoting participant- generated data (Clark-Ibáñez 2004, 1507–13; Harper 2002, 13–15). The 180-degree panorama explicitly situates preferences within adjacent affordances and flows, countering the decontextualised reading of single frames (Rose 2016, 17–20; 36–37). Descriptive coding and cross-case patterning provide a tractable analytic trail from marks to categories and themes in an auditable way (Saldaña 2009, 70–81). By focusing on the practical

bearings of images on conduct, including how selections show what people would do, seek or avoid in a place, the experiment showed the potential of Peirce's *Pragmaticism* (Peirce 1960c, 227–73; 1933, 533–38; 1960e, 482).

Regarding the methodological limitations, the *Picture-naire* freezes moments like any photographic method; therefore, it can miss temporalities (light changes, flow rhythms, weather) and non-visual atmospheres (sound, smell, temperature). Static frames may compress layered components and create visual overlaps that complicate later comparison. These constraints appear in the results and are noted in the textual synthesis. Additionally, the participants' answers were focused on micro-level details, missing the macro-level of the entire public space, motivating the move to a more systematic macro-representation addressed in the following experimentation (the *Photo-naire*).

All the protocols followed visual research ethics by minimising identifiability in public settings, limiting close-ups of individuals, and securing informed consent for participation and use of images in research outputs; these practices are in line with widely cited guidance on visual method ethics and on the responsibilities that flow from the sites of production, circulation and elicitation (Rose 2016, 359–66).

Participant photographs successfully externalised tacit perceptions, yet they privileged local fragments and idiosyncratic frames. *Desirable Cities,* therefore, standardised the carrier into a site-wide photographic catalogue that participants could manipulate at micro and macro-scales in the following experimentation (*Photo-naire*).

4.6.4. The *Photo-naire*

Building on the *Picture-naire*'s indication that single images elicit sharp but fragmentary judgements, the *Photo-naire* tested whether participants could elicit and handle a macro-level synthesis of an entire open-air public space. The phase, therefore, set out to reconcile two cognitive scales: the micro perceptions of discrete environmental components and the macro understandings of the entire field of research, including from the *natural* category: *green features* (trees, flowers, etc.), *water features* (rivers, lakes, etc.), *weather* (rain, wind, etc.), *animals* (street animals, pets -belong to *cultural*-); from the *cultural* category: *social activities* (walking, cleaning, etc), *things* (accessories, food, etc.), *type of transport* (bicycle, ferry, etc.); and from *constructural* category: *paths* (roads, rails, etc.), *nodes* (street's corners, interceptions, etc.), *landmarks* (high-rise, sculptures, etc.), *places* (stores, restaurants, etc.), *buildings* (hotels, apartments, etc), *urban furniture*

(benches, ATM, etc.) *urban attraction* (ferris-wheel, carrousel, etc). Methodologically, the *Photo-naire* draws on sorting-based visual methods that allow participants to externalise their mental models *without* relying on verbal description alone (Gaver et al. 1999, 21–29; Lobinger and Brantner 2020, 309–21).

To stress-test the *Photo-naire* under conditions of maximal component density and visual competition, two of Shanghai's busiest open-air public spaces were selected: the Bund (外滩) and Nanjing East Road (南京东路). Four (4) participants were recruited at each site from the *Desirable Cities* network, two *city makers* (female: *P47*, male: *P48* for the Bund; female: *P51*, male: *P52* for Nanjing East Road), and two *city users* (female: *P49*, male: *P50* for the Bund; female: *P53*, male: *P54* for Nanjing East Road), to compare how distinct types of stakeholder's condition pattern recognition and selection of preferences. The study lasted five (5) months, covering design, pre-field prototyping, comprehensive pre-mapping, and field implementation. See *Image 059*: *DC-PS. Photo-naire – The Bund*, and *Image 060*: *DC-PS. Photo-naire – Nanjing East Road.*

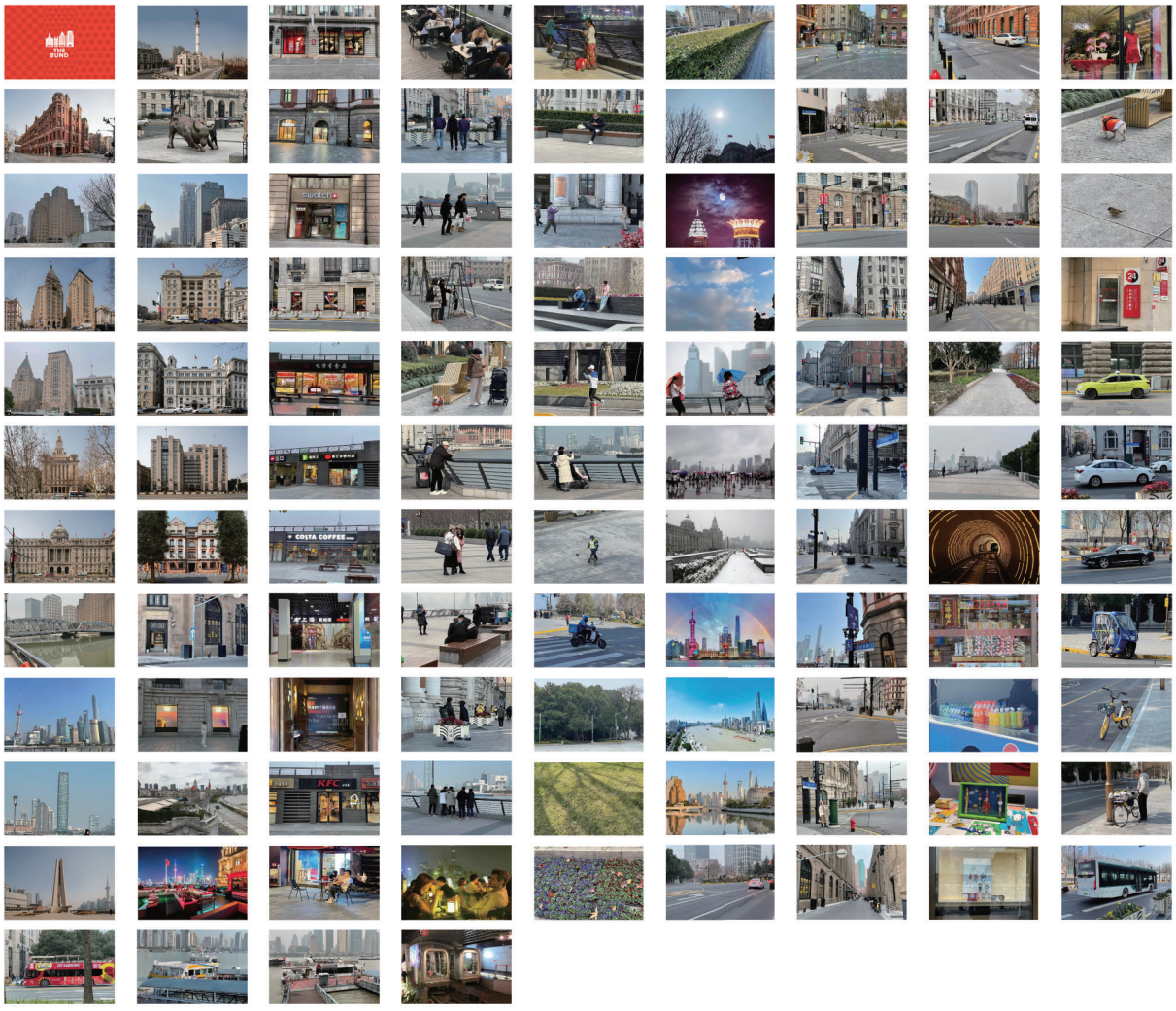


Image 059. *DC-PS. Photo-naire - the Bund*



Image 060. *DC-PS. Photo-naire - Nanjing East Road*

Before any participant interaction, the research team systematically photographed and catalogued every relevant field feature or condition. Each item was classified using *Desirable Cities'* adaptation of Magnaghi's environmental triad: *natural*, *cultural*, and *constructural* (with *weather* conditions under *natural*; *social activities* under *cultural*; and Lynch's categories of orientation: *path*, *edge*, *intersection*, *landmark*, together with *transport systems* under *constructural*), with the idea of creating distinct layers of commensurable measurements (Lynch 1960, 46; Magnaghi 2011, 92). This catalogue was transformed into a *uniform* deck of photographic cards (9 × 5 cm), each depicting a *single* element at a consistent scale. Prototype layouts were iterated until the full deck for each site could be spread on a standard 70 × 140 cm table, ensuring the *entire* urban repertoire was simultaneously visible to participants to minimise reliance on memory and supporting category formation through manipulation in physical space (Rugg and McGeorge 1997, 80–93).

Sorting techniques, like cards, picture and item sorts, are well suited to eliciting participants' categorisation schemes, making them appropriate when the purpose is to surface *how* different actors mentally organise complex domains (Rugg and McGeorge

1997, 80–93). Beyond general card-sorting, picture-sorting has particular salience for visual and spatial topics: it enables rapid, low-burden decisions, participants often find it engaging, and it avoids forcing a translation of visual impressions into purely verbal form (Lobinger and Brantner 2020, 309–21).

Although a "*playful*" combinatorial protocol (inviting participants to build, group and relate cards) was planned, consistent with generative, "*probe-like*" methods designed to elicit tacit criteria (Gaver et al. 1999, 21–29), the priority was *validation*: Does each card communicate the intended element when *seen in isolation*? To test this, cards were presented one-by-one. If a participant's identification matched the intended label, the trial was marked as a *successful match*; otherwise, it was marked as unsuccessful. Only after this recognitional baseline was confirmed could the deck be trusted as a macro-level representational tool. See *Image 061*: *DC-PS. Photo-naire – The Bund – participants' percentage of card identification*, *Image 062*: *DC-PS. Photo-naire – The Bund – city makers' detailed percentage of card identification, Image 063*: *DC-PS. Photo-naire – The Bund – city users' detailed percentage of card identification, Image 064*: *DC-PS. Photo-naire – Nanjing East Road – participants' percentage of card identification.*, *Image 065*: *DC-PS. Photo-naire – Nanjing East Road – city makers' detailed percentage of card identification, Image 066*: *DC-PS. Photo-naire – Nanjing East Road – city users' detailed percentage of card identification.*

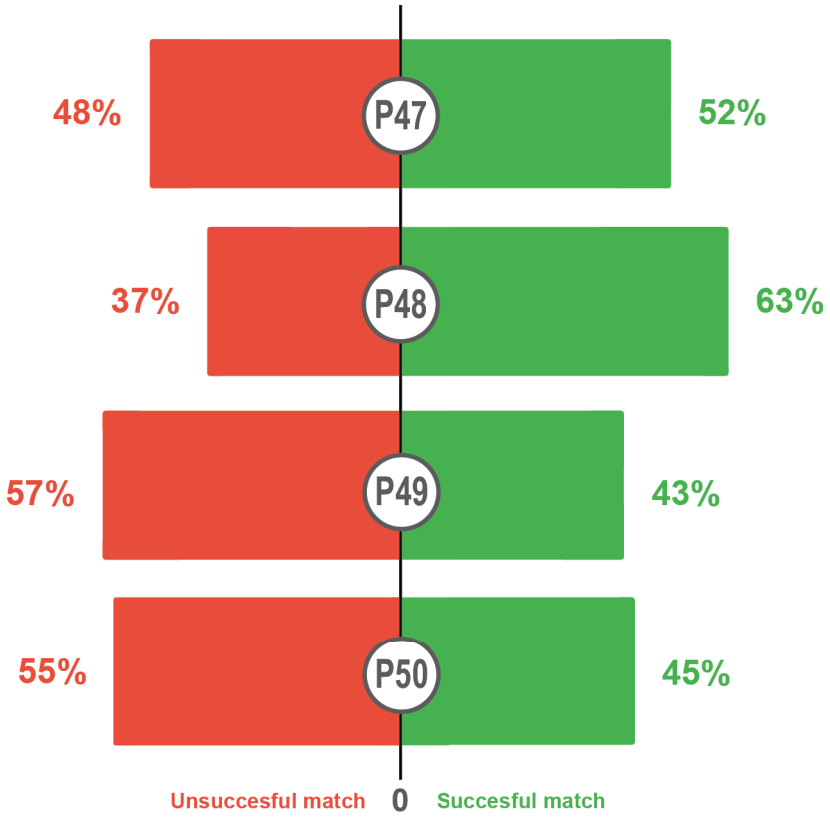


Image 061. *DC-PS. Photo-naire - the Bund - participants' percentage of card identification.*

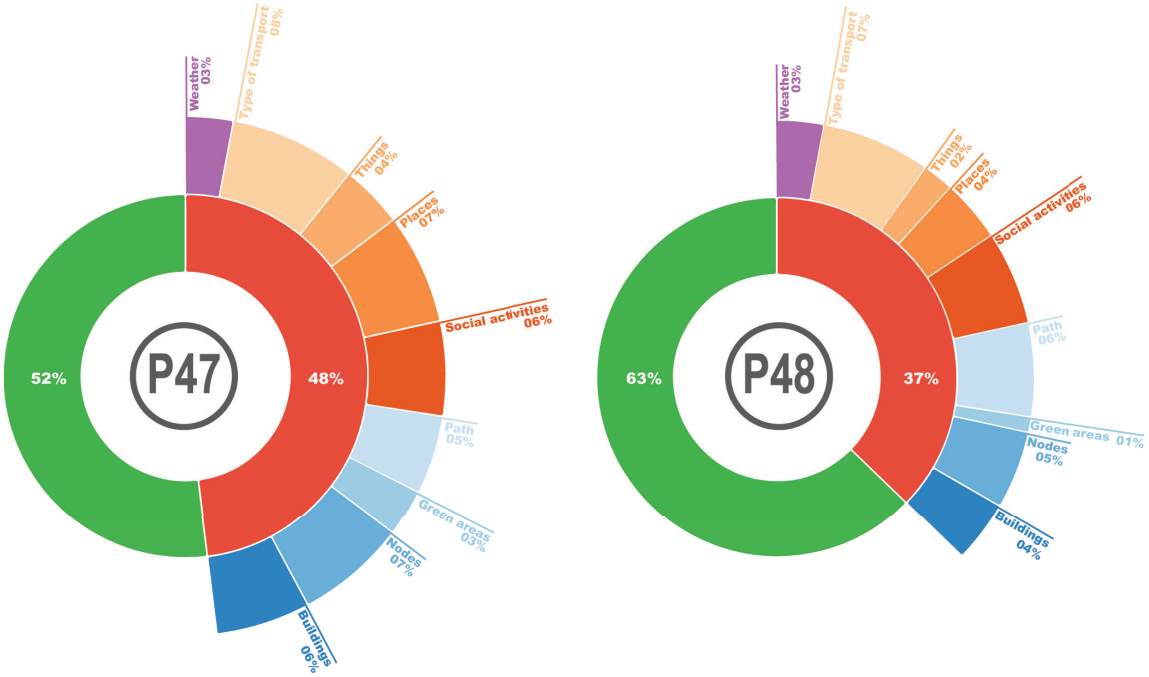


Image 062. *DC-PS. Photo-naire - the Bund - city makers' detailed percentage of card identification.*

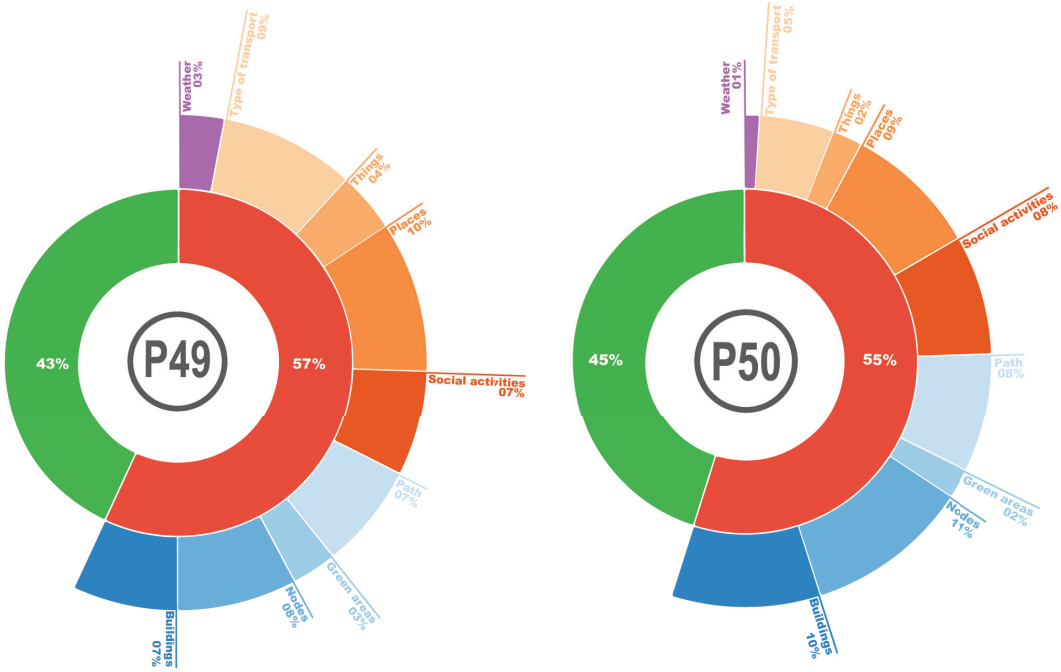


Image 063. *DC-PS. Photo-naire - the Bund - city users' detailed percentage of card identification.*

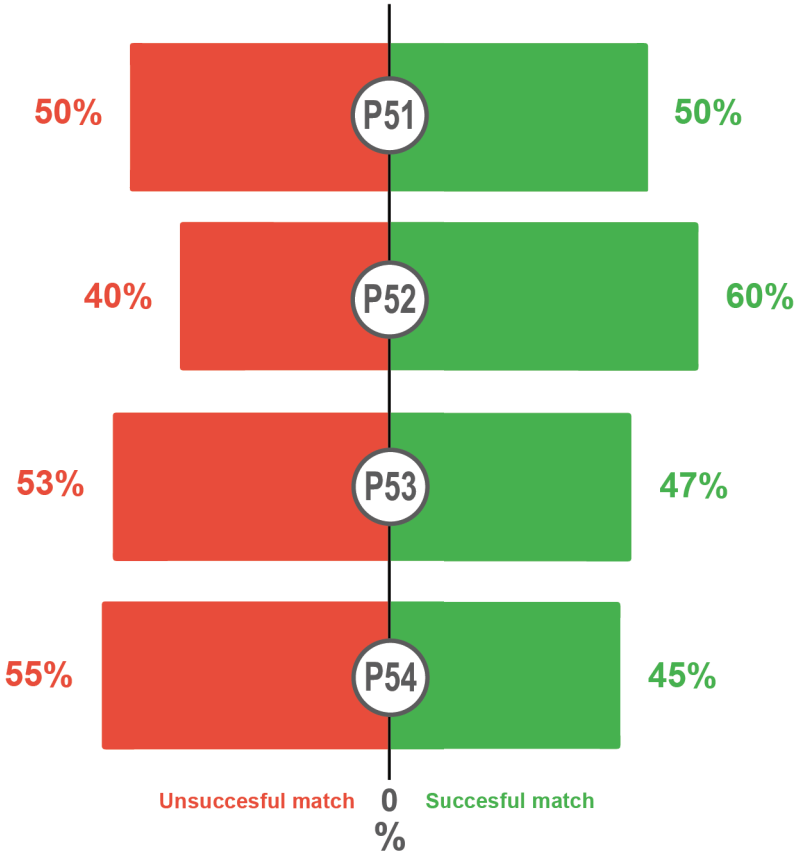


Image 064. *DC-PS. Photo-naire - Nanjing East Road - participants' percentage of card identification.*

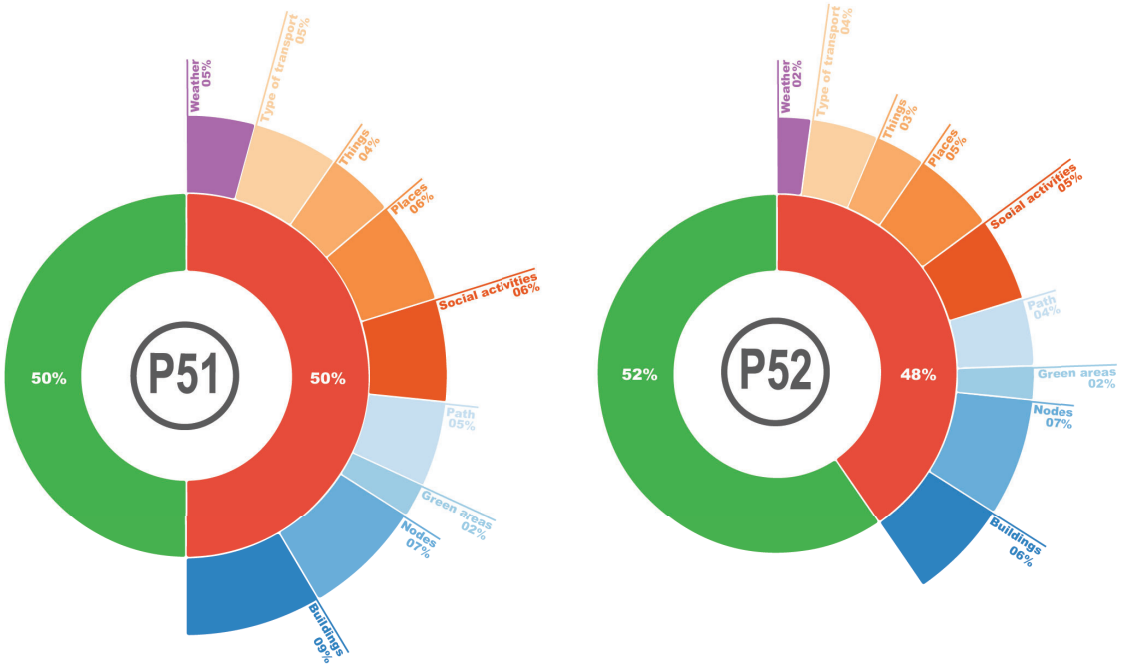


Image 065. *DC-PS. Photo-naire - Nanjing East Road - city makers' detailed percentage of card identification.*

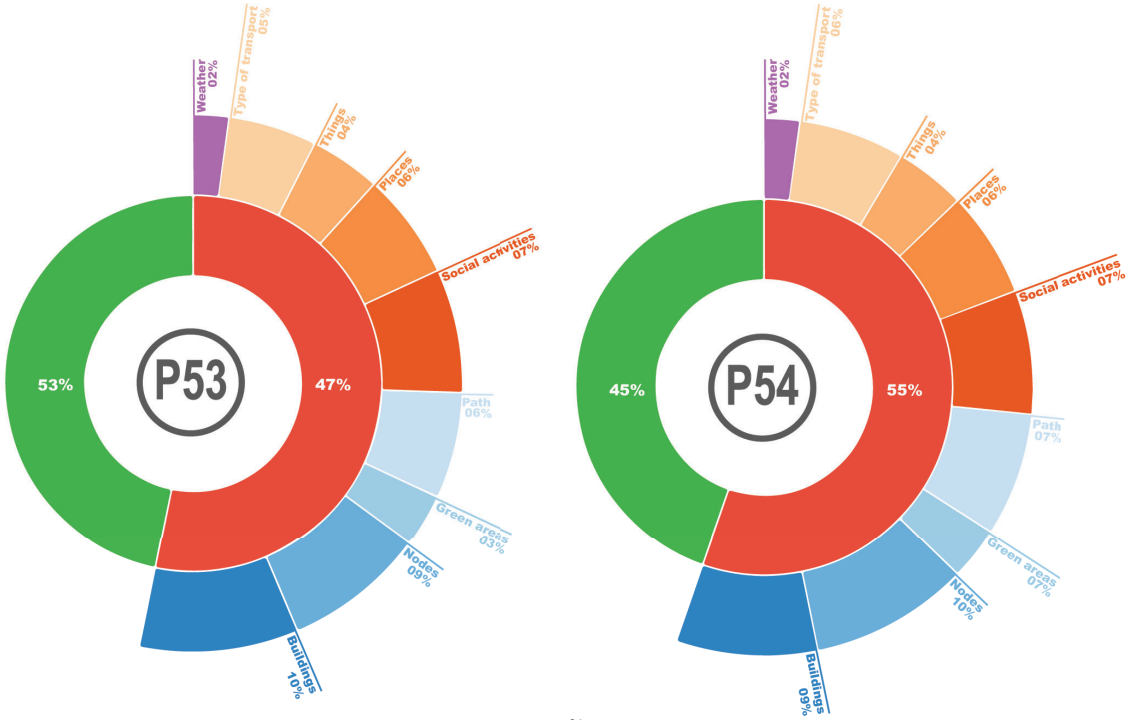


Image 066. *DC-PS. Photo-naire - Nanjing East Road - city users' detailed percentage of card identification.*

The identification accuracy was inconsistent. The primary failure mode was compositional overlap: a "single" card-photograph contained *several* elements, e.g., façade detail, human activity, signage, etc., inviting divergent attributions of *what* the card was about. In vision science terms, the photograph offers a 2D projection in which occlusion, clutter and aspect variation complicate component recovery and object naming, a classic difficulty documented by "*recognition-by-components*" theory (Biederman 1987, 115–16; 133–34). Clutter raised uncertainty about which component was the figure; the participants' identifications dropped, consistent with findings that specific degradations or occlusions yield "*non-recoverable*" objects (Biederman 1987, 133–34; 141).

Comparing interpretive behaviour across *city makers* and *city users* underscored that the *same* visible stimulus could cue *different* interpretants depending on prior repertoires and anticipated practical bearings, consistent with a *Pragmaticism* view of meaning as anchored in conceivable effects and habits of action. *City makers* tended to parse cards through professional schemas (e.g., reading an image as a *landmark* or architectural style), whereas *city users* more often indexed activities (e.g., *selfie spot*, *shopping cluster*). These empirical findings validated *Desirable Cities'* positioning to split the sample by role and affirmed the overarching thesis that urban desirability is co-produced by heterogeneous interpretive communities.

The small per-site sample (n = 4) was intentional: this phase concerned "*instrument validity*", not population generalisation. In usability science, early stage evaluations rely on small samples because severe issues emerge early and additional cases exhibit diminishing returns, for example, ≈ 80 % of problems often appear within the first five participants (Virzi 1992, 459–60). The *Photo-naire*'s validation aim was analogous: to surface recognitional failure modes *before* deploying the "*playful*" relational protocols more broadly.

Substantively, the *Photo-naire* clarified how macro level visibility and manipulability of a site's *full catalogue* can scaffold richer reasoning about desirability across *natural, cultural, and constructural* layers. Methodologically, this empirical experiment also revealed the limitations of photographs in conveying single-element meanings in saturated urban scenes. Thus, two design consequences follow: A design transition from photographs to a simplified graphic representation and a validation of the "playful" and didactical approach. To avoid compositional overlap and reduce occlusion/clutter effects, the following empirical experiment (*Graphic-naire*) targeted to replace photographs with minimal graphic representation, isolating a single component per card while preserving salient affordances and relations. This responds directly to the recognition literature's warning that specific contour/concavity configurations hinder component recovery (Biederman 1987, 133–34). And with recognition fixed, the tool can be safely used in *generative* sessions, with participants combining, grouping and sequencing components to express desirable scenarios from a macro level (Gaver et al. 1999, 21–29).

4.6.5. The *Graphic-naire*

The *Graphic-naire* directly extended the *Photo-naire* by replacing photographs with simplified illustrations to eliminate the compositional overlap, occlusion and visual clutter that had depressed recognition accuracy in saturated urban scenes (Biederman 1987, 133–34; 141). "*Diagrammatic representations*" mitigate this by spatially aligning relevant information and reducing visual search, thereby supporting inferences that are difficult to make from complex images (Larkin and Simon 1987, 65–71). From an "*information design*" perspective, moving from photos to "*pared down*" graphics constrains visual variables to what is semantically necessary (Bertin et al. 1983, 1–13).

The conversion criterion was therefore *not* abstraction for its own sake but "*semantic isolation*" of one intended component per card while preserving "*affordance- relevant*" cues (e.g., verticality, canopy, seating edge, flow direction). Background removal, contour

simplification and flat colour reduced accidental features that invite misclassification (Biederman 1987, 133–34). This conversion process was done manually, without any automatic program or AI system, extending the process over ten (10) months. The cards retained a one-to-one mapping to the macro catalogue of each field of research, structured as *natural*, *cultural*, and *constructural*. The design aim was therefore dual: (A) *recognition stability* at the card level; (B) *manipulability* at the deck level for macro reasoning. Therefore, the *Graphic-naire* was designed in two phases. *Graphic-naire*'s *sub-phase 1* (validation of the representational carrier) targets the first aim (*recognition* of the micro level). In contrast, *sub-phase 2* (immersion and generative composition) targets the second aim (*manipulability* of the macro level).

4.6.5.1. *Sub-phase one:* Validation of the representational carrier

Sub-phase one returned to the two Photo-naire sites to hold conditions constant: the Bund (外滩) and Nanjing East Road (南京东路). The same eight participants were re-engaged to provide an identical comparison analysis (P47–P54; two *city makers* -female and male- and two *city users* -female and male- per site). The card sets for both sites were rebuilt with minimal illustrations (background removed except for weather; simplified contours; flat colours), produced manually (no AI), and yielded uniform, macro-scannable decks, see Image 067: DC-PS. Graphic-naire – photo- graphic conversion, Image 068: DC-PS. Graphic-naire – The Bund, and Image 069: DC-PS. Graphic-naire – Nanjing East Road.

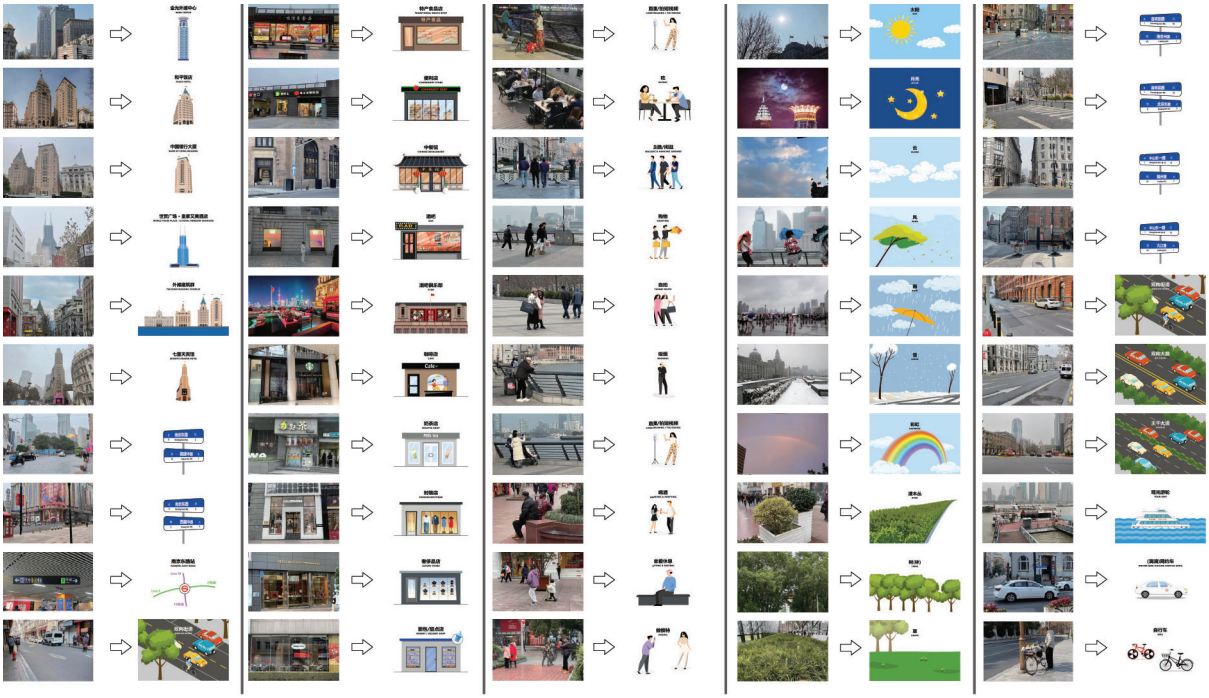


Image 067. *DC-PS. Graphic-naire - photo-graphic conversion*



Image 068. *DC-PS. Graphic-naire - The Bund.*



Image 069. *DC-PS. Graphic-naire - Nanjing East Road.*

The recognition test replicated the *Photo-naire's* procedure: cards were presented one by one; if the participant's identification matched the card's intended element, the trial was marked a *successful match*; otherwise, *unsuccessful match*. The sole purpose was to validate the representational carrier (illustration vs. photograph) before deploying any playful combinatory use of the deck.

Average recognition rose from approximately 50% (photo cards) to approximately 90% (graphic cards) at the same sites with the same participants, see *Image 070: DC-PS. Graphic-naire – the Bund – participants' percentage of card identification, 071: DC-PS. Graphic-naire – the Bund – comparison of participants' percentage of card identification between Photo-naire and Graphic-naire, Image 072: DC-PS. Graphic-naire – Nanjing East Road – participants' percentage of card identification, and Image 073: DC-PS. Graphic-naire – Nanjing East Road – comparison of participants' percentage of card identification between Photo-naire and Graphic-naire.*

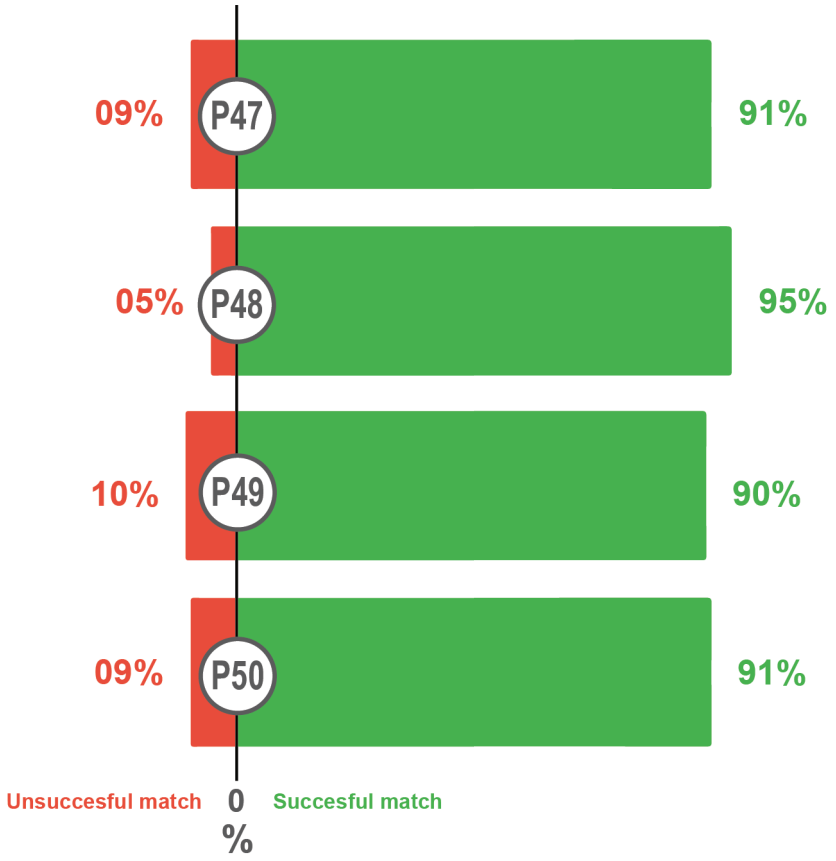


Image 070. *DC-PS. Graphic-naire - the Bund - participants' percentage of card identification.*

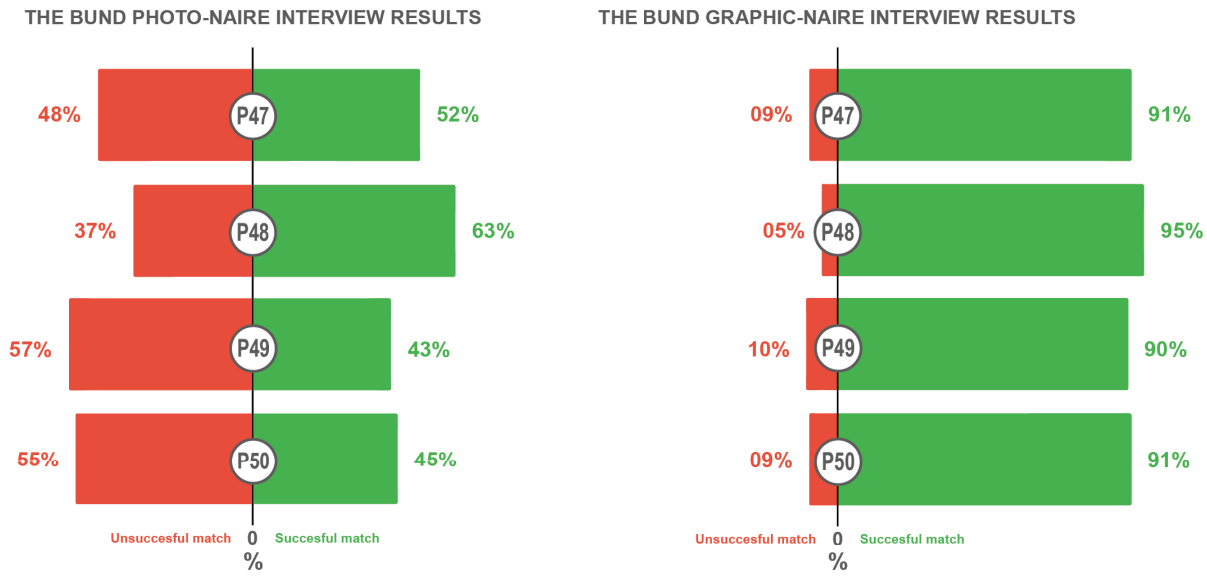


Image 071. *DC-PS. Graphic-naire – the Bund - comparison of participants' percentage of card identification between Photo-naire and Graphic-naire.*

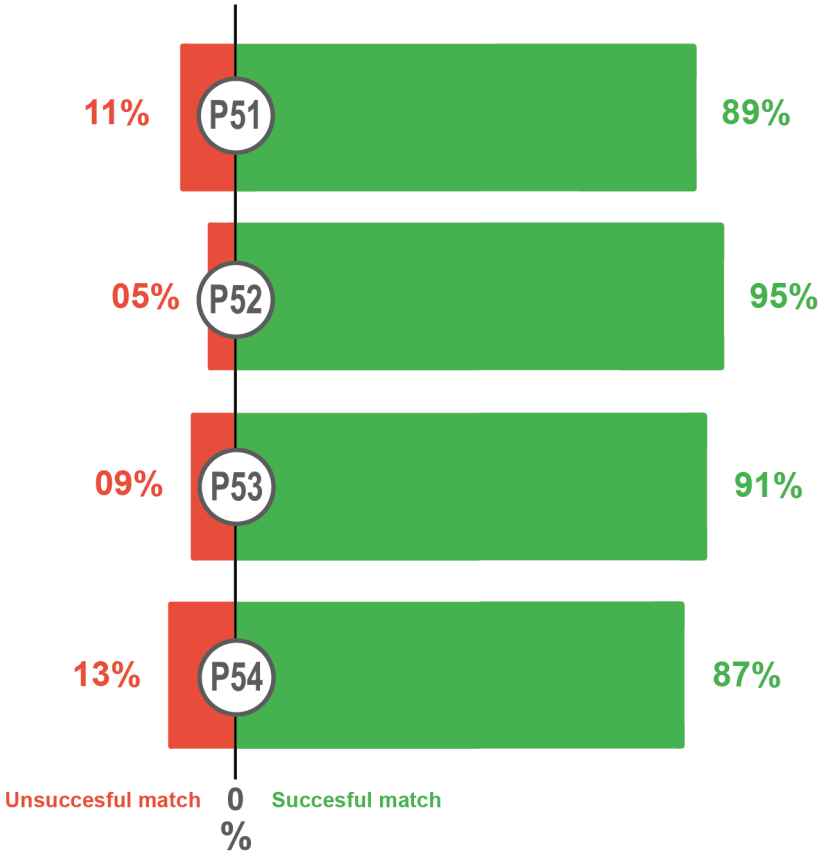


Image 072. *DC-PS. Graphic-naire - Nanjing East Road - participants' percentage of card identification.*

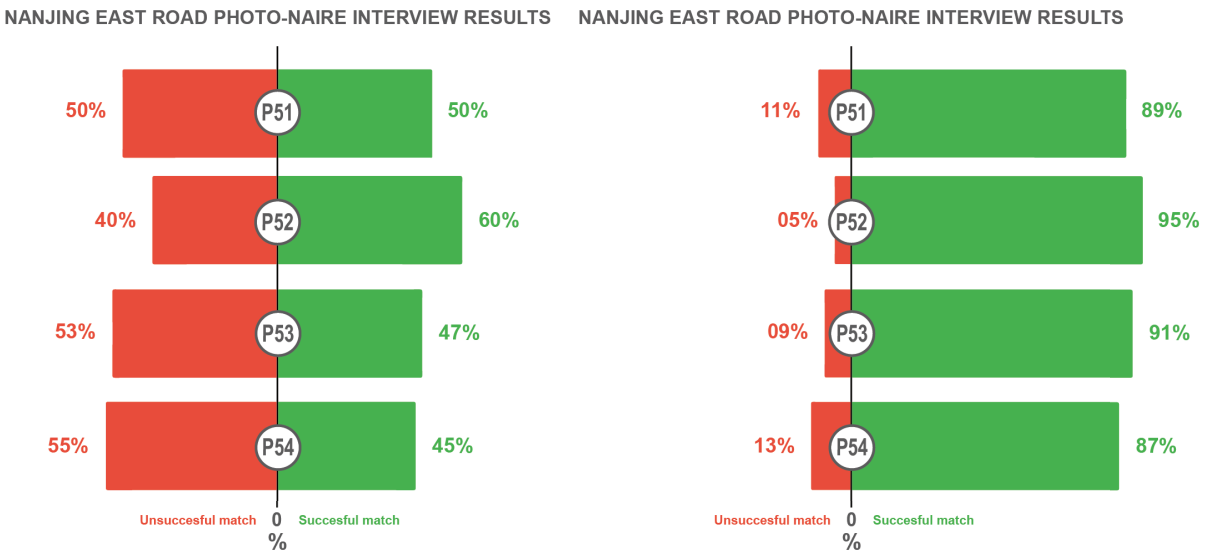


Image 073. *DC-PS. Graphic-naire – Nanjing East Road – comparison of participants' percentage of card identification between Photo-naire and Graphic-naire*

This significant improvement indicates that de-noised graphics stabilised each card's referent and made the deck fit for subsequent macro level manipulations, consistent with classic results on how diagrams reduce search and support inference (Larkin and Simon 1987, 65–71), and with the prediction that removing accidental features at concavities improves component recovery (Biederman 1987, 133–34; 141). However, an additional statistical analysis was conducted to identify if there was a pattern within the small percentage of unsuccessful matches to improve these successful results further. This analysis showed a representational issue with the types of roads (5% average) and buildings' names (6% average). The analysis also showed a higher degree of mismatching among *city users* than among *city makers*, possibly because of the *city makers*' training in studying urban infrastructure. See *Image 074: DC-PS. Graphic-naire – The Bund – city makers' detailed percentage of card identification, Image 075: DC-PS. Graphic-naire – The Bund – city users' detailed percentage of card identification, Image 076: DC-PS. Graphic-naire – The Bund – city makers' detailed percentage of card identification, and Image 077: DC-PS. Graphic- naire – The Bund – city users' detailed percentage of card identification.*

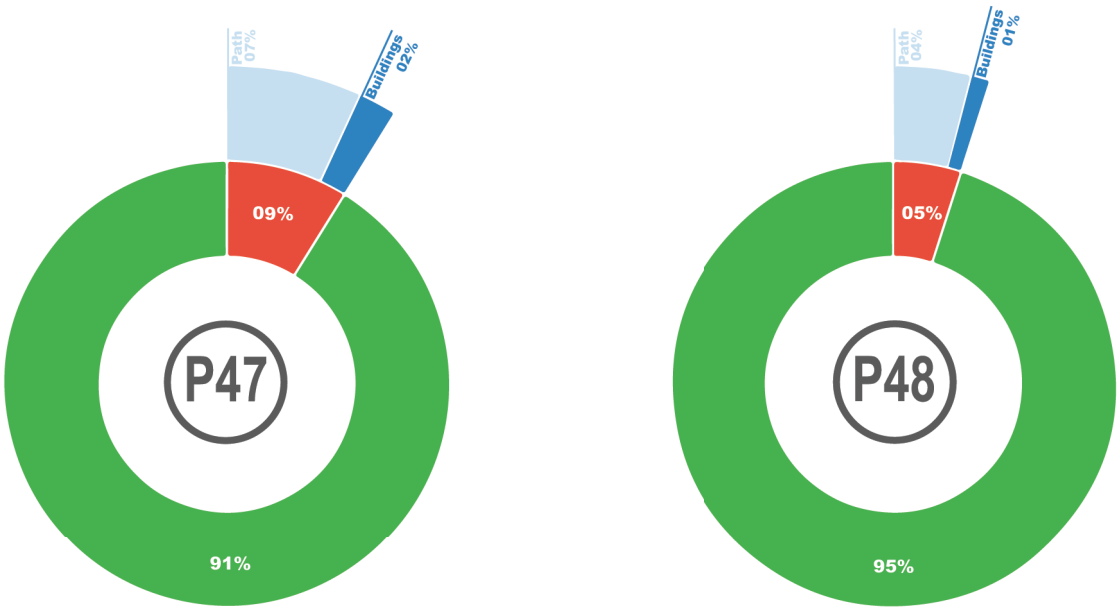


Image 074. *DC-PS. Graphic-naire - the Bund - city makers' detailed percentage of card identification.*

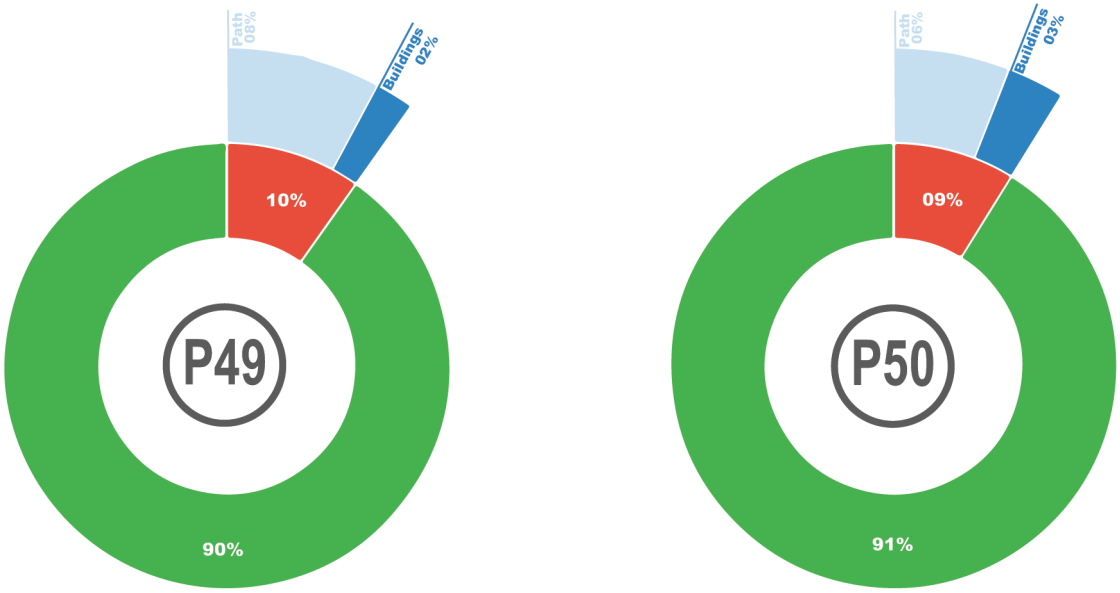


Image 075. *DC-PS. Graphic-naire - the Bund - city users' detailed percentage of card identification.*

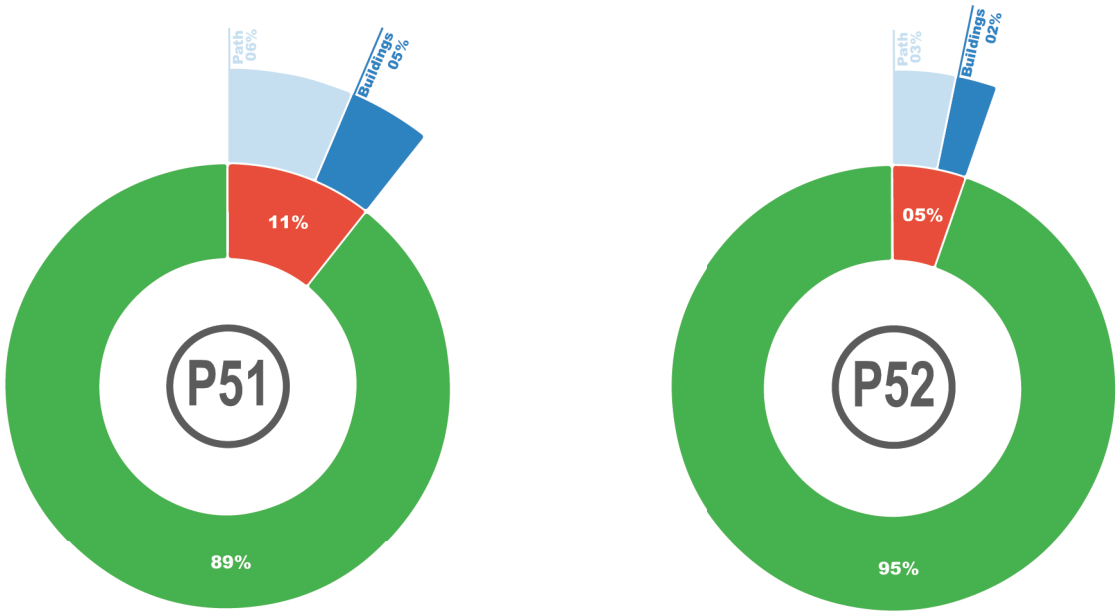


Image 076. *DC-PS. Graphic-naire - Nanjing East Road - city makers' detailed percentage of card identification.*

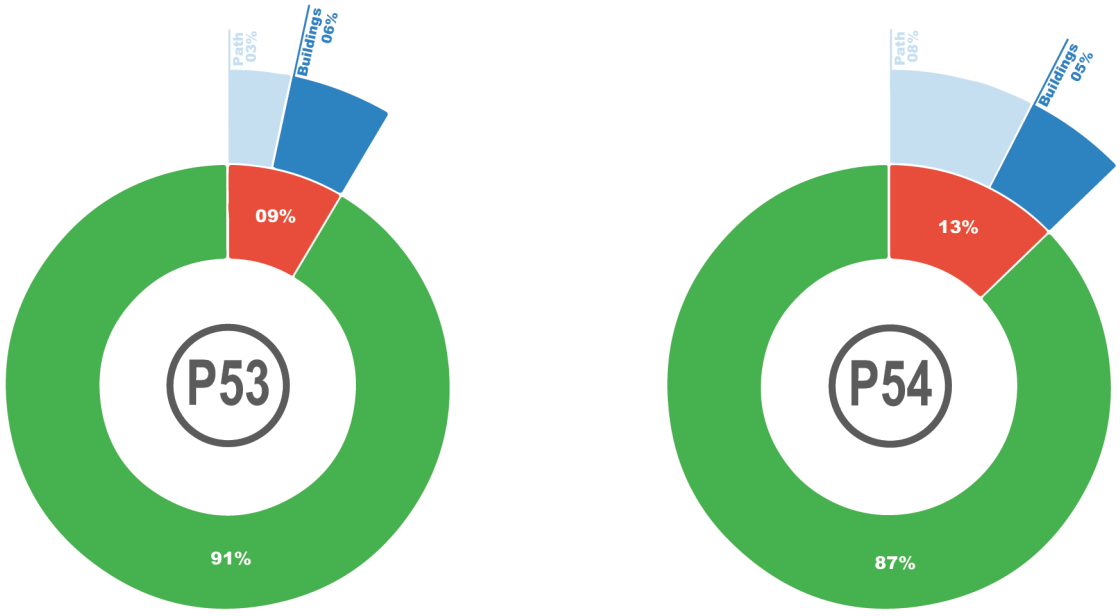


Image 077. *DC-PS. Graphic-naire - Nanjing East Road - city users' detailed percentage of card identification.*

These analyses suggested that the new cards for *sub-phase* two could include a title. Therefore, the participants could read the names of the types of roads, places, activities and buildings, to guarantee the successful matching of the intended and interpreted meaning of the cards.

4.6.5.2. *Sub-phase two: Immersion and generative composition*

Having validated recognizability, *sub-phase two* tested the method in nine open-air sites: the Bund (外滩), Nanjing East Road (南京东路), Xintiandi (新天地), Wukang Road (武康路), Xuhui Riverside Park (西岸), Lujiazui (陆家嘴), The Power Station of Art Riverside Park (当代艺术博物馆), Luxun Park (鲁迅公园), and Found 158 (巨鹿路 158), with four (4) new participants in each site (two *city makers* and two *city users*, from *P55* to *P90*, equally representing female and male), using an immersion + generative protocol.

At this point in the progression of the preliminary sties, the *Desirable Cities* paradigm became consolidated, adapting Peirce's "*Pragmaticism*" to urban studies. Ontologically, Peirce proposes a structural hierarchical order for everything that exists: "*Firstness*", "*Secondness*", and "*Thirdness*" (McNabb 2018, 63–90; Peirce 1960g, 328). For *Desirable Cities*, this means that there cannot be *built* environments like cities (which is "*Thirdness*") without a *cultural* environment (which is "*Secondness*"), and neither city nor culture can be sustained without the *natural* environment (which is "*Firstness*"). Epistemologically, Peirce proposes a semiosis process of the inter-relations of people and space, in a triadic system: *"Object" – "representamen" – "interpretant"* (Peirce 2008, 249; 1960c, 235–37). *Desirable Cities* adapted it as: urban environments – people's perceptions – people's interpretations, allowing to understand people's behaviour from people's capacity to perceive the environment ("*representamen*"), and people's interpretation of that perception ("*interpretant*"), in which the environment remains objective as real existence ("*Object*"). The way in which this ontology structures this epistemology is that "*Object*" is "*Firstness*", "*representamen*" is "*Secondness*", and "*interpretant*" is "*Thirdness*".

This ontology and epistemology bridge the analytical and continental philosophies under a *holistic* phenomenological approach of methodologies that can study the relationship between people and their environment (Peirce 1960c, 233–64). *Desirable Cities* addresses these methodological processes as "*Firstness*" and "*Object*" in the urban environment, "*Secondness*" and "*representamen*" in the perception of *symbols*, and "*Thirdness*" and "*interpretant*" in the results of people's interpretations

as *imaginaries*. Most importantly, Peirce suggests that *desire* is part of the process of acquiring knowledge, as people constantly make associations with what they know already (concepts or ideas) in their efforts to understand new environmental conditions (relationships) and new concepts (reflections). This gives *desire* a weight that goes beyond the simple manifestation of people's preferences.

Complementary to this paradigm and aligned with the weight that *desire* carries on people's behaviour, are Lacan's reflections on *desire*. Lacan places *desire* in the demand or aspirations driven by what he calls "*little a*" or "*a*", Lacan graphically presents this as the articulating centre of the "*Real*" (or "*Object*" in the terms of Peirce), the "*symbolic*" order (or perceptions of "*symbolism*" in the terms of Peirce), and the "*imaginary*" order (the interpretation or "*imageries*" in the terms of Peirce), all of them like a *Borromean Knot* (Homer 2005, 87; Lacan 2006, 68–72; 2018, 57–58). What this means for *Desirable Cities* is that the relationships that trigger how people expect to interact with the environment are a product of their *symbolic* perception and *imaginaries* interpretations, that remain connected to *Real* and its laws. Thus, *Desirable Cities* is drawing from Lacan's methods to unveil people's *desires* through the psychoanalysis method, extending this approach to the study of urban experiences of city stakeholders, in the application of tools and the analysis of these applications' results.

Lacan recognised the importance of culture and language in forming the social dimension of people, in comparison with the pure biological being. Through his clinical experiences, he identifies that the conscious and unconscious behaviour of people can be expressed by language using the same lexical mechanism: *metaphor* and *metonyms* (Lacan 2006, 676–77), although the unconscious expressions are more difficult to decode because these are singular (belong only to one person) and therefore there is no convention for their interpretations. However, by identifying the *metaphors* and *metonyms*, the psychoanalyst could start to unveil the unconscious *desires* of people, as concepts emerge in substitution for others. As *Desirable Cities* does not deal with clinical cases, but rather a common and collective scenario of people's interaction with their urban environment, this process of identification is less hidden.

Thus, with this improved set of illustrated cards, *Desirable Cities* allows participants to see all the possibilities at once (macro level) and freely choose their favourite options (micro level). Through the unguided creation of an *ideal* storyline, the participants can articulate and communicate their expectations for *desirable* urban experience in the field of research. Subsequently, the post interview analysis could extract the metaphoric

associations of *desire*. Thess protocols included two parts: (i) pre-interview walk, and (ii) cards-interview talk. This walk-then-talk format draws on the "*go-along*" technique's capacity to access reflexive and experiential aspects of place during movement through it (Kusenbach 2003, 463–68) for the pre-interview walk, which also aligned with Lynch's "*walk around the block*" (Lynch 2006, 185–204). For the cards-interview talk, the participants completed two steps: (A) identify each card and organise them by group using their own logic (e.g., function, aesthetic, emotional); and (B) assemble and narrate a *desirable* urban experience as a storyboard from the available components. Protocol diagrams and examples are shown in *Image 078*: *DC-PS. Graphic-naire – protocols for getting familiar with the cards, organising groups*, and *Image 079*: *DC-PS. Graphic-naire – protocol to select a desirable story with the cards*.

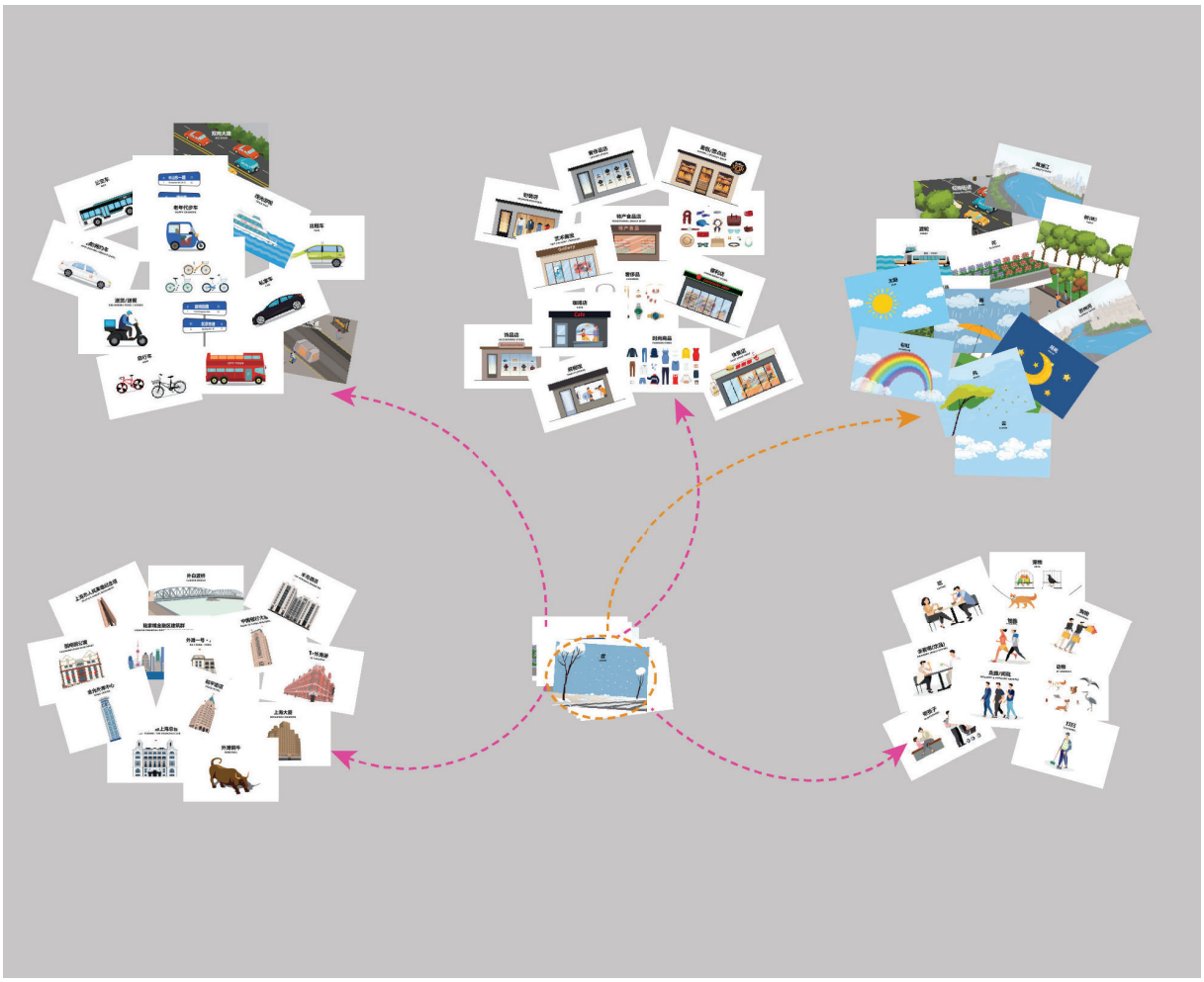


Image 078. *DC-PS. Graphic-naire - protocols for getting familiar with the cards by organising groups.*

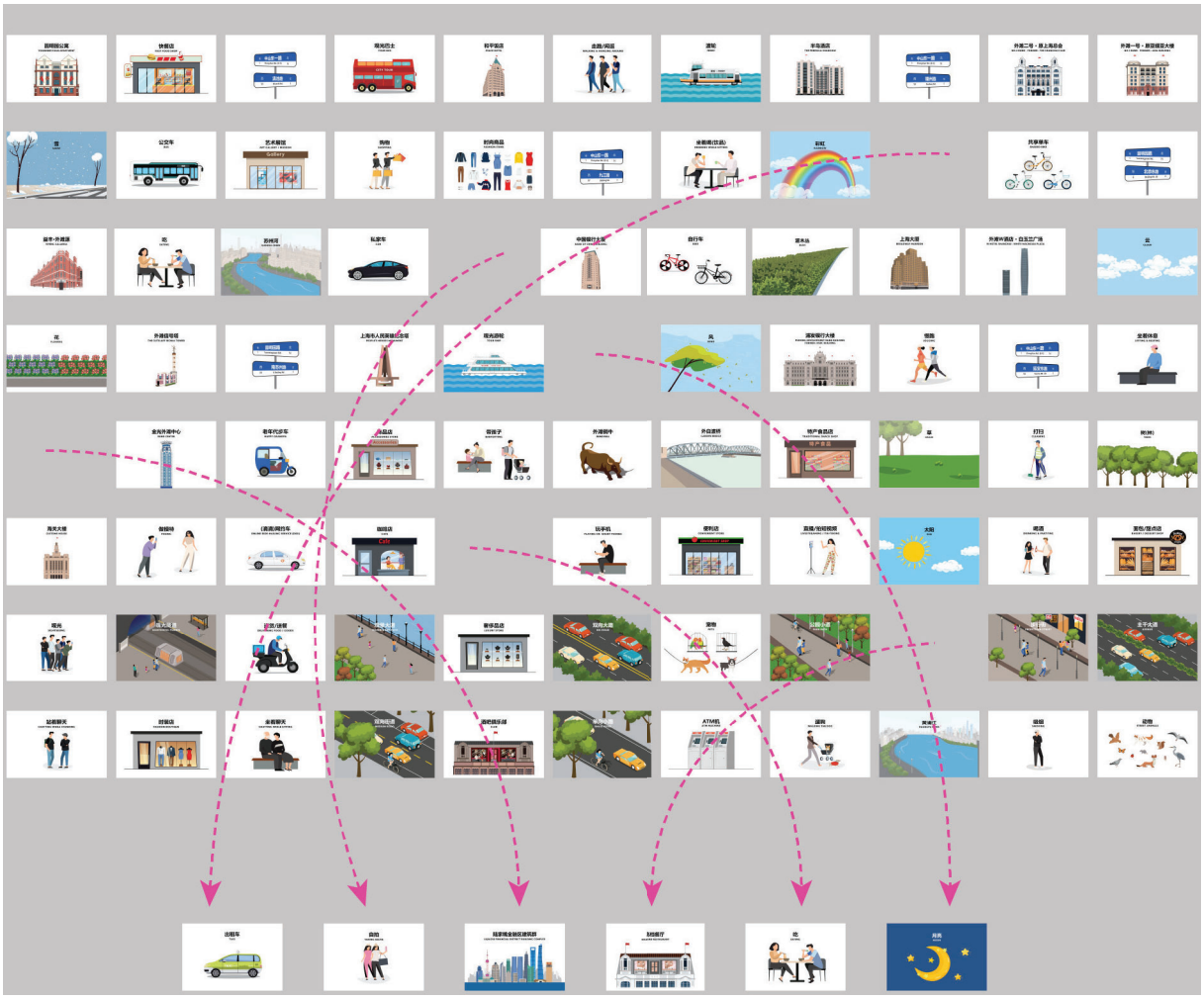


Image 079. *DC-PS. Graphic-naire - protocol to select a desirable story with the cards.*

Alongside descriptive patterning across *natural*, *cultural*, and *constructural* layers, the semiotic analysis attended to participants' articulations of *desirable* imaginaries through: *metonymic chain* (list the sequence in the participants' own order articulated by "+" to present the continuity of space/time/activity); and *metaphoric associations* (highlight where an image stands for a value, e.g., "*height*" for "*status*," "*icon*" for "*world-class*", if there is substitution yielding a qualitative meaning), drawing on Jakobson's "*metaphor and metonymy poles*" (Jakobson and Halle 2010, 90–96) and on the conceptual metaphor theory's account of "*systematic*" mappings (Lakoff and Johnson 1980, 8–14), which aligns with Lacan's psychoanalytic analysis of *desire* (Lacan 2006, 518–19), and Peirce's *Pragmaticism* principles of communication (Peirce 1960c, 290). To make evident this environmental relationship with the metonymic and metaphorical articulation of the participants, the transcripts from the participants' feedback are highlighted in **green** when their mentioned ***natural* elements**; **orange**, when they mentioned ***cultural* elements**; and **purple** when the mentioned ***constructural* elements**.

Therefore, *sub-phase two*'s results confirmed the card's content recognition, the macro level reasoning, the contrast of city stakeholders, and the compositional logic of urban imaginaries. The graphic decks maintained high recognisability, and the added short titles further stabilised card meaning in the seven additional sites (Xintiandi, Wukang Road, Xuhui Riverside Park, Lujiazui, The Power Station of Art Riverside Park, Luxun Park, and the Found 158), in practice, yielded a 100% identification of the card's content. With one element displayed per card and all the elements/cards displayed at once on the table, participants scanned entire site catalogues at a glance, compared across layers, and articulated relations among components, consistent with the cognitive advantage of diagrams for reducing search and aligning information spatially (Bertin et al. 1983, 1–13; Larkin and Simon 1987, 65–71). *City makers* tended to deploy technical categories (Urban morphologies, architectural styles) and named landmarks; *city users* foregrounded affect and practice (shade to rest, pictures or selfies spot, popular place), this aligns with de Certeau's reflections on "*strategies*" and "*tactics*" (de Certeau 2013, xix), and under Peirce's *Pragmaticism* maxim, identifying these diverging habits of action matter as the meaning of a component lies in its conceivable bearings on conduct for that interpreter (Peirce 1960d, 388–437).

Finally, the storyboards demonstrated the sorting techniques for eliciting participant categorisation schemes and externalising mental models (Rugg and McGeorge 1997, 80–93) through *metonymic chain* and *metaphoric associations* in the participants' reasoning (e.g., greenery spaces with water edge + benches + tree's canopy = calm), making explicit how cognitive and emotional processes intertwine in conceptions of urban *desirability* (de Certeau 2013, xix; Jakobson and Halle 2010, 90– 96; Lacan 2006, 518–19; Lakoff and Johnson 1980, 8–14; Peirce 1960c, 290). These emotional manifestations where so recurrent that, when contrasted with Peirce's theory, became evident that the participants were sharing more than just emotional responses to the environments. The pattern identified in the empirical results was the materialisation of the "*psychological responses*" with "*emotions*" (*Firstness*), "*actions*" (*Secondness*), and "*reflections*" (*Thirdness*) (McNabb 2018, 90; Peirce 2001, 186–257). Therefore, all the participants' transcripts were also highlighted in red when their mentioned ***emotions***; **yellow** when they mentioned ***actions***; and **blue** when they mentioned ***reflections***.

See *Image 080: DC-PS. Graphic-naire – The Bund's walks map*, and *Image 081: DC-PS. Graphic-naire – The Bund's results*. These interviews' results at the Bund show how:

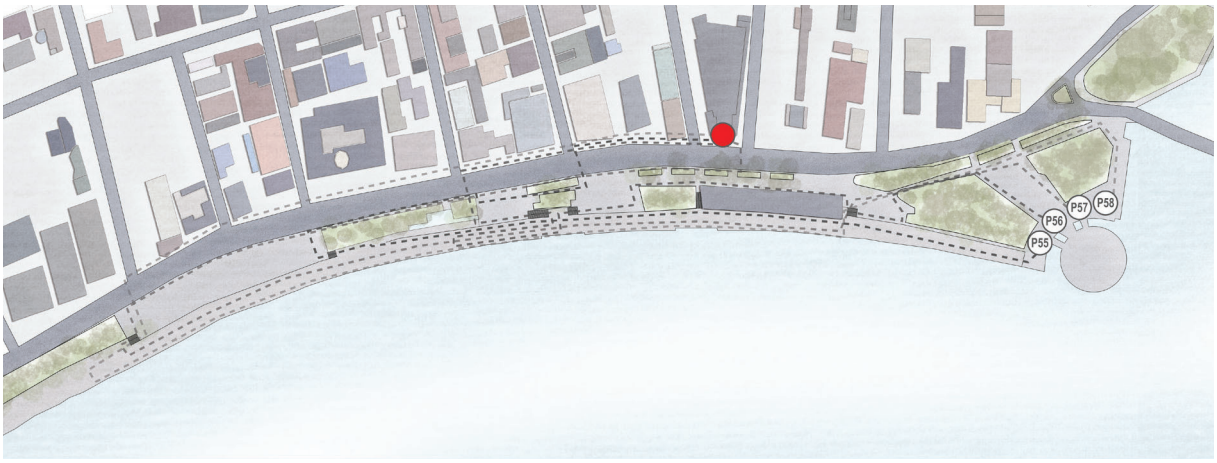


Image 080. *DC-PS. Graphic-naire – The Bund's walks map*



Image 081. *DC-PS. Graphic-naire – The Bund's results*

P55 (female - *city maker*) articulated the following fifteen (15) groups: "***weather** you can touch*" (rain, snow), "***weather** you cannot touch*" (sun, cloud, etc), "***green areas***" (*green features*), "***rivers***" (*water features*), "***animals***", "***roads***" (*paths*), "***street's corners***" (*nodes*), "***transport***" (including *type of transport*, and delivering food -activity-), "***buildings***", "***places***", "***people***", "***cleaning staff***" (*social activity*), "***ATMs***" (*urban furniture*), "***things***", and "***roof tops***" (including restaurants and bars). For her articulation of a *desirable* experience, she connected the following *metonymic chain*: (a) **clouds** "***nice day, but not too hot***" + **Lujiazui skyline** + **walking** a **dog** (her parent's dog), to then: (b) "***to take** the*" **tourist boat** + "***tour of** the*" **Huangpu River**, after: (c) "***going to***" **HSBC building**, then: (d) "*at*" night + "***going to***" **Nanjing East Road** + **Peninsula Hotel** "*for **dinner***", and (e) "***going to***" **The Bund No.**

8 rooftop "*for* ***cocktails***" (**drinking**). All these are connected with the following *metaphoric associations*: "***nice day, but not too hot***" (**blue sky with breeze**) = "***preferable weather***", "***dog***" = "***desirable pet***" (she doesn't have a dog, so dream to **walk** her parents dog that live in another country), and "***unique entertainment***" (**boat tour**) + "***hight-end restaurant and bars***" = "***preferable lifestyle***".

P56 (male - *city maker*) articulated the following six (6) groups: "***urban furniture***" (including the signals from *nodes*, sculptures, and ATMs) "***transport systems***" (including *type of transport* and *paths*), "***people***" (including *social activities*, and *things*), "***nature***" (including *weather*, *green features*, *water features* and *animals*), "***buildings***", and "***places***". For his articulation of a *desirable* experience, he connected the following *metonymic chain*: (a) "***take a***" **Didi**, towards: (b) **the bund promenade** + **walking and seeing** + *"with* ***my parents*** *the* ***Lujiazui skyline***" + "*from*" the **Bund Historical Museum** + "*to*" the **Bund Signal Station**, then: (c) "***take*** *the*" **ferry** + "*to*" **drink** "***beers in Lujiazui riverfront***" + **eat** "*dinner*". All these are associated with the following *metaphoric associations*: "***ideal day***" = "***enjoy family***", "*the* ***selected walk***" = "***busy,*** *but a* ***must-visit place***", "*ferry and* ***high-rises***" = "***unique experience worldwide***", and "***cold beers"*** = "***perfect refreshment***".

P57 (female - *city user*) articulated the following eight (8) groups: "***city***"(including *water features*, *paths*, *urban furniture*, cleaning -activity-, Lujiazui skyline), "***transport***" (including *type of transport* and *nodes*), "***things***", "***people***" (*socialvactivities*) "***buildings***", "***food and beverages places***" (restaurant, café, bakery, ice cream, etc), "***animals***" (including pets, street's animals, and the bull sculpture), and "***weather***". For her articulation of a *desirable* experience, she connected the following *metonymic chain*: (a) sunny day, (b) "***cross*** *the*" ***bridge*** + "*to*" **Broadway Mansions** + "to ***have a coffee*** *in the*" **café** + "***looking at***" the **Suzhou Creek**, then: (c) "***walk by*** *the river in*" the **Bund promenade** + "***enjoying*** *the*" **sunset** (participant added this card) + and after: (d) "***going to***" **The Bund No. 8 rooftop** "*for* ***cocktails***"+ "**watch**" **Lujiazui skyline's lighting** (participant added this card). All these are associated with the following *metaphoric associations*: "***sunny day***" = "***preferable weather***" = "***desirable***", and "***drinking coffee and cocktails***" + "***visiting iconic places***" + "***rooftop and skyline's lights"*** = "***fashionable lifestyle***" = "***desirable***".

P58 (male - *city user*) articulated the following three (3) groups: "***street life***" (including *water features*, *paths*, *nodes*, *landmarks,* and *types of transport*), "***people*** *and animals*" (*social activities* and *animals*), and "***lifestyle***" (*buildings*, *places*, *urban*

furniture, and *things*). For his articulation of a *desirable* experience, he connected the following *metonymic chain*: (a) **medium road** + **small road** + **one way road** ("***going*** *by bike*") + "*to*" **the Bund promenade**, (b) **pedestrian road** + **park road** ("*walking by the river*") + "*enjoying the views of*" **Huangpu River**, in a: (c) **rainbow** ("*beautiful day*") + "admiring" **Lujiazui skyline**. All these are associated with the following *metaphoric associations*: "***biking***" = "***perfect transportation***" = "***sensorial experiences***" (the participant is doing this routine often), "***rainbow***" = "***beautiful day***", and "***Shanghai skyline***" = "***amazing experience***".

See *Image 082: DC-PS. Graphic-naire – Nanjing East Road's walk map, and Image 083: DC-PS. Graphic-naire – Nanjing East Road's results*. These interviews' results at Nanjing East Road show how:

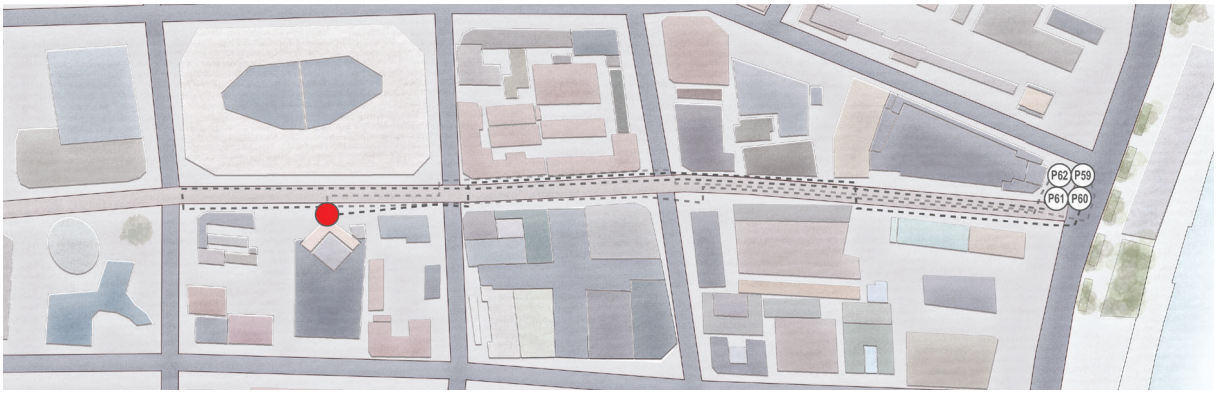


Image 082. *DC-PS. Graphic-naire – Nanjing East Road's walks map*

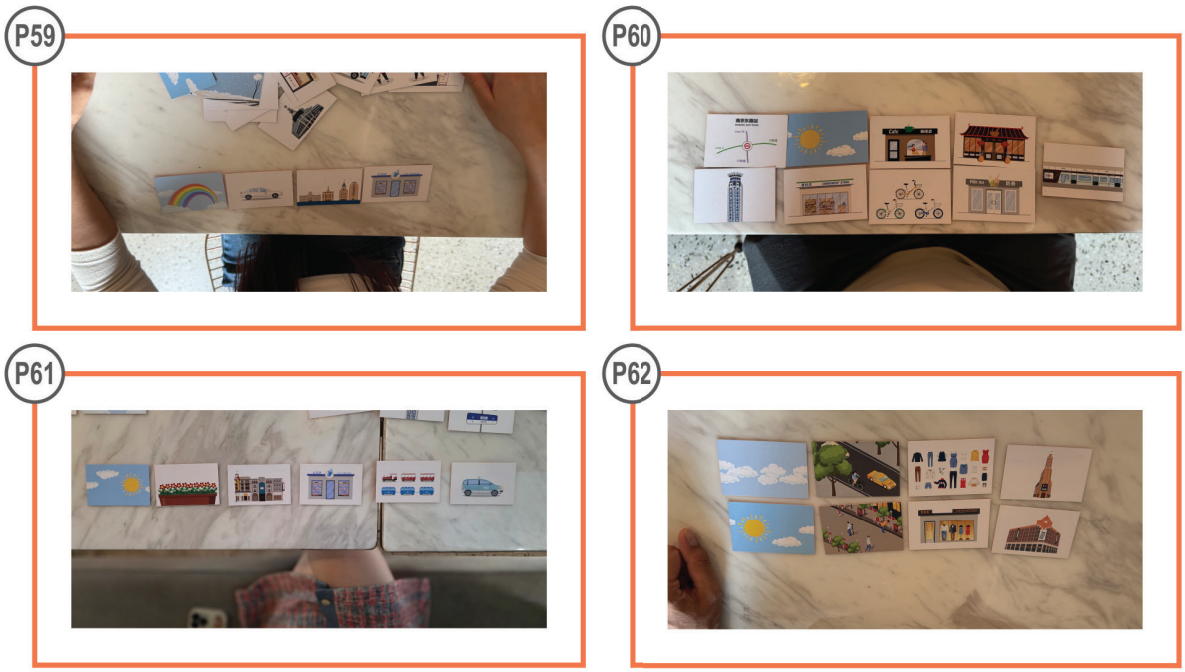


Image 083. *DC-PS. Graphic-naire – Nanjing East Road's results*

P59 (female - *city maker*) articulated the following ten (10) groups: "***accessories and food***" (*things*), "***buildings***", "***stores***" (*places*), "**ATMs**" (*urban furniture*), "***transportation***" (*types of transport*), "***people***", "***plants***" (*green features*), "***weather***", "***signage***" (including *nodes* and advertising -*urban furniture*-), and "***roads***" (*paths*). For her articulation of a *desirable* experience, she connected the following *metonymic chain*: (a) "***a Saturday with perfect weather***" **rainbow**, (b) "***take a***" **Didi** "*to* ***Nanjing East Road***" + "*nearby*" **the Bund** + "***to eat ice cream*** *in the*" ***ice cream shop***. All these are associated with the following *metaphoric associations*: "***rainbow***" = "***nice day***" (no rain), and "***nice weather***" = "***ice cream***".

P60 (male - *city maker*) articulated the following seven (7) groups: "***weather***", "***nature***" (including *green features* and *animals*), "***places of interest***" (*places* that the participant is interested on, e.g., convenience stores, cafés, restaurants, and bars), "***general places***" (including the rest of *places*), "***buildings***", "***people***" (including *social activities*, and *things*), and "***transport***" (including *type of transport, paths,* and *nodes*).

For his articulation of a *desirable* experience, he connected the following *metonymic chain*: (a) "***take a***" metro, towards: (b) Westin Hotel "***to swim*** *in front of the Westin*" (the Westin is the orientation *landmark*), after: (c) **sunny day** + "***going to***" convenience store "*with* ***the swimming team*** *and* ***buying snacks***" + "***going to***" coffee shop "***drinking coffee***", then: (d) "***take***" sharing bikes + "***going to***" **Chinese restaurant** "***have lunch***" + "*and* ***going to***" **bubble tea shop** "***for having desert***", and (e) "***take the***" metro "***back home***". All these are associated with the following *metaphoric associations*: "***Westin Hotel***" = "***urban reference***", "***swimming and socialising***" = "***self-development***" (the participant is doing this routine every Sunday), "***sunny day***" = "**nice day**", and "***exercise and socialising*** *with* ***food and beverage***" = "***perfect balance***".

P61 (female - *city user*) articulated the following six (6) groups: "***nature***" (including *weather*, *green features*, *water features*, *animals*), "***people***" (*social activities*), "***transport***" (including *type of transport*, *paths, nodes,* and delivering food – activity-), "***shops***" (*places*), "***things***", and "***buildings***". For her articulation of a *desirable* experience, she connected the following *metonymic chain*: (a) **sunny day**, (b) "***walk by***" the **flowers** + **Building** (**"***shops*"**)** (c) "***going to***" **ice cream shop** "*for an* ***ice cream***", then: (d) "*take the*" **touristic train** "*to* ***comfortably enjoy*** *the street without being* ***annoyed*** *by the* ***crowd***", and after (e) "***take the***" **taxi** "*back home*". All these are associated with the following *metaphoric associations*: "***sunny day***" = "***desirable***

weather = "***eating ice cream***", and "***touristic train*** = "***comfortable*** *ride in a* ***touristic, crowded environment***".

P62 (male - *city user*) articulated the following four (4) groups: "***architecture***" (including *buildings*, and *places*), "***people***" (including *social activities* and *things*), "***environment***" (including *weather*, *green features*, and *paths*), and "***transportation***" (including *nodes*, and *types of transport*). For his articulation of a *desirable* experience, he connected the following *metonymic chain*: (a) "***in a nice day with***" **sun** + **clouds**, (b) "***going to*** *Nanjing East Road*" **pedestrian road** + "*to Zara*" **fashion shop** + "*and Nike in the*" **iconic building** + "***walking*** *around other buildings like*" the **Huawei building**. All these are associated with the following *metaphoric associations*: "***sunny*** *and* ***cloudy***" = "***nice day***", "*Zara*" = "***foreigner-sized clothing***", "*Nike*" = "***quality and fashionable sport shoes***", and "***brands***" = "***consistent quality***".

See *Image 084: DC-PS. Graphic-naire – Xintiandi's card-set*, *Image 085: DC-PS. Graphic-naire – Xintiandi's walk map*, and *Image 086: DC-PS. Graphic-naire – Xintiandi's results*. These interviews' results at Xintiandi show how:



Image 084. *DC-PS. Graphic-naire – Xintiandi's card-set.*



Image 085. *DC-PS. Graphic-naire – Xintiandi's walks map*

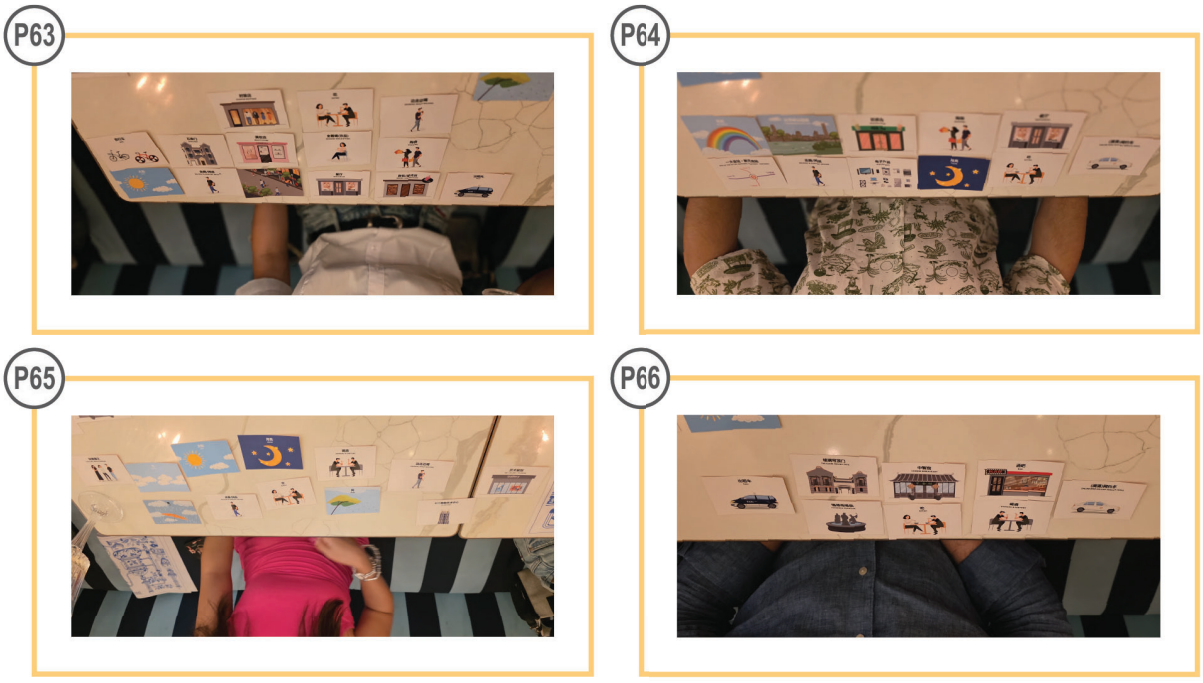


Image 086. *DC-PS. Graphic-naire – Xintiandi's results*

P63 (female - *city maker*) articulated the following eight (8) groups: "***weather***", "***animals***", "***buildings***", "***places***", "***landscape***" (including *green features, water features, and pedestrian streets*), "***urban furniture***", "***transport***" (including *type of transport, paths and nodes*), and "***activities***" (*social activities*). For her articulation of a *desirable* experience, she connected the following *metonymic chain*: (a) "***come by***" bike + "*on a*" **sunny day**, there (b) **walking around** + the **Shikumen buildings** "***with friends***", then (c) "***visiting my favourite***" **beauty stores** + "*and*" **fashion boutique** + "*in the main*" **pedestrian street**, after (d) "***find a***" **restaurant** + "*for*" **eating** + "*and*" **chatting** while **sitting**, then (e) "***going to*** a ***coffee shop*** for an ***americano*** *and*" **drinking** it while **walking** + "***do some***" shopping + "*and* ***get*** an ***ice cream*** at" the

dessert shop, finally (f) "***take a*** **taxi** "*to go home*". All these are associated with the following *metaphoric associations*: "***sunny day*** = "***ideal weather***", "***sunny day*** = "***biking*** = "***ice cream***", and "***shopping*** *and* ***eating*** with ***friends*** = "***ideal activity***".

P64 (male - *city maker*) articulated the following eight (8) groups: "***transport***" (including types of *transport, paths and nodes*), "***buildings***", "***park***" (including *green features, water features,* and animals), "***weather***", "***shops***" (*places*), "***people***" (*social activities*), "***stuff***" (*things*), and "***things*** I ***like***" (including *social activities, pets, places*, and electronics). For his articulation of a desirable experience, he connected the following *metonymic chain*: (a) "***a perfect day with a***" ***rainbow*** + "***going to*** *Xintiandi station by*" **metro**, there (b) "***going to***" **the park** + "*and*" **walking** and **hanging** around "***while wait for my girlfriend***", then (c) "***going with her to***" the milk tea shop + "*and have a look at new gadgets at*" the **electronics shop** + "***and doing some shopping***", after (d) at night + "***going to our favourite***" **restaurant** + "*for*" **eating** "*dinner together*", and finally (e) "***going back*** *home by*" Didi. All these are associated with the following *metaphoric associations*: "***rainbow***" = "***nice day***" (rain is not counted on this statement), and "***perfect day***" = "***shopping*** and ***eating*** with ***my girlfriend*** *in an* ***outdoor space****".*

P65 (female - *city user*) articulated the following five (5) groups: "***shops*** and ***places***" (*places*), "***iconic buildings***" (*buildings*), "***things you can buy***" (*things*), "***people*** and ***animals***" (including social activities and animals), and "***season*** and ***weather***" (*weather*). For her articulation of a desirable experience, she connected the following *metonymic chain*: (a) "***meet with*** my ***girlfriends*** *and*" **chatting** + "***we feel the***" **sun** + the **clouds** "come" + "*and the*" rain "*starts*" + "*and* ***we are still happy together*** ***doing window shopping*** as if ***seasons were passing by*** *while we are*" walking around "*until* ***night***", then (b) "***we can see*** *the* ***stars*** *and*" **moon** + **eating** + "*until we feel the*" **wind**, after (c) "*we* ***will be*** in ***Polux' terrace***" **drinking** and **partying** + "until we need **to go to** an ***exhibition's opening***, so we take ***some drinks*** to go" **drinking** and **walking** + "to the" **K11** + "and ***arrive*** *at the*" **gallery** "*for the rest of the* night!". All these are associated with the following *metaphoric associations*: "***time with girlfriends***" = "***chatting, window shopping, eating, drinking, and partying***" = "***so fun that time flies!***", and "***art events***" = "***desirable activity***".

P66 (male - *city user*) articulated the following four (4) groups: "***sky***" (weather), "***street***" (including *types of transport*, *paths*, *nodes*, and *animals*), "***places***" (including *buildings*, *places*, *sport features*, and *urban furniture*), and "***society***" (including *people*

and *things*). For his articulation of a *desirable* experience, he connected the following *metonymic chain*: (a) "***come in*** *a*" **taxi** + "***pass next*** *to the*" **shikumen buildings** + "*and the main*" **fountain**, (b) "***going to***" a **Chinese restaurant** + "*and*" **eating** "***with friends***", then (c) "***going to***" **the bar** + "and" **drinking** and **partying**, finally (d) "***going home*** *in a*" **Didi**. All these are associated with the following *metaphoric associations*: "*Xintiandi*" = "***outdoor bars*** *and* ***restaurants***", and "***perfect day***" = "***socialising with friends***".

See *Image 087: DC-PS. Graphic-naire – Wukang Road's card-set*, *Image 088: DC-PS. Graphic-naire – Wukang Road's walk map*, and *Image 089: DC-PS. Graphic- naire – Wukang Road's results*. These interviews' results at Wukang Road show how:



Image 087. *DC-PS. Graphic-naire – Wukang Road's card-set.*

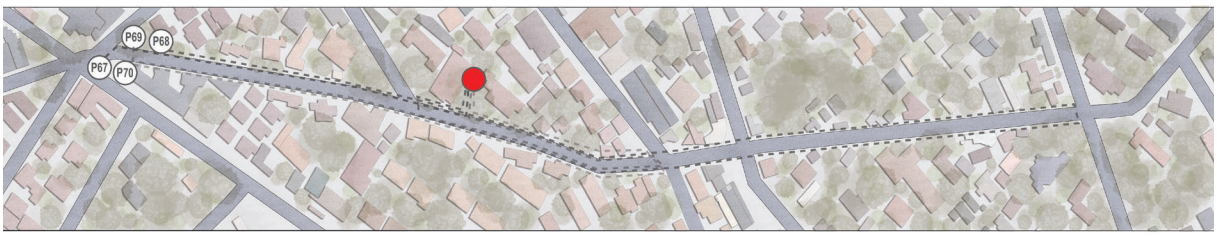


Image 088. *DC-PS. Graphic-naire – Wukang Road's walks map*



Image 089. *DC-PS. Graphic-naire – Wukang Road's results*

P67 (female - *city maker*) articulated the following thirteen (13) groups: "***weather***", "***green spaces***" (*green features*), "***streets***" (*paths*), "***street's signals***" (*nodes*), "***buildings***", "***food and beverages places***" (restaurant, café, bakery, ice cream, etc), "***cultural places***" (gallery), "***transport***" (*type of transport*), "***urban furniture***" (ATM, street's power bank), "***people's activities***" (*social activities*), "***urban workers***" (cleaning, delivering food, taking photographs – activities-) "***animals***", and "***things***". For her articulation of a *desirable* experience, she connected the following *metonymic chain*: (a) sunny day, (b) **walking**, towards: (c) "***going to***" **ice cream shop** "*and* ***having*** *an* ***ice cream***" + **taking selfies**, and after: (d) "***going to***" **Wukang Masion building** "*and* ***taking*** *more* ***selfies***". All these are associated with the following *metaphoric associations*: "***sunny day***" = "***preferable weather***", "***drinking coffee*** *and* ***cocktails***" + "***shopping fashionable brands***" + "***visiting iconic places***" = "***preferable lifestyle***", and "***sunny day***" = "***ice cream***".

P68 (male - *city maker*) articulated the following seven (7) groups: "***natural things***" (including *social activities*, *animals*, *weather* and *green features*), "***stuff***" (*things*) "***types of roads***" (*paths*), "***traffic signs***" (*nodes*), "***transportation methods***" (*types of transport*), "***buildings***", and "***places***". For his articulation of a *desirable* experience, he connected the following *metonymic chain*: (a) "*nearby the*" **metro station** + "*usually there are many* ***people***" **posing** + **taking pictures** + **taking selfies** + **day** + "*and*" **night**, there (b) "***I like*** *the*" **Wukang Mansion** + "***to avoid tourists*** *I go straightway to the*" **café** + "***get a***" **power bank** "*because my wife always forget to*

charge her ***phone****, and I* ***go***" **walking** while **drinking** "***coffee***" + "***to meet*** *her for some*" **drinks** + "*and* ***dinner*** *in a*" **Chinese restaurant**, finally (c) "***back home on***" **shared bikes**. All these are associated with the following *metaphoric associations*: "***Wukang Road***" = "***touristic spot***", "***Wukang Road***" = "***beautiful architecture***", and "***perfect day***" = "***date with wife***" = "***dining outside***".

P69 (female - *city user*) articulated the following eight (8) groups: "***natural***" (including *weather* and *green features*), "***street***" (*paths*), "***street's corners***" (*nodes*), "***buildings***" (including *buildings* and *places*), "***transport***" (*types of transport*), "***people***" (*social activities*), "***animals***", and "***things***". For her articulation of a *desirable* experience, she connected the following *metonymic chain*: (a) **sunny day**, (b) "***going to***" **coffee shop** + **drinking** "***coffee***", to then: (c) **walking a dog** (the participant doesn't have a dog) + "*on the*" **street** "*under* **trees**", towards: (d) "***going to*** *this iconic"* **building** (Midan Apartment) + "*to the*" **ice cream shop** "*and* ***having an ice cream***", then: (e) "***going to***" **plant shop** "*and* ***buying flowers****"*, then (f) "***going to***" **accessories shop** "*and* ***buying earrings***", (g) "***going to*** *visit more* ***iconic***" **buildings** (Fenji Crest and Ferguson Lane), (h) "**finding a**" **street power bank** "*and* ***recharge*** *mobile after* ***taking pictures*** *of* ***buildings***", after (i) **eating** (dinner), then (j) **walking** "***for digestion***", and (k) **drinking** "**cocktails** with a **friend**". All these are associated with the following *metaphoric associations*: "***sunny day***" = "***preferable weather***", "***drinking coffee and cocktails***" + "***shopping fashionable brands***" + "***visiting iconic places***" = "***preferable lifestyle***", "***dog***" = "***desirable pet***", and "***sunny day****"* = "***ice cream***".

P70 (male - *city user*) articulated the following four (4) groups: "***city elements***" (including *buildings*, *paths*, *nodes*, *types of transport*, and *urban furniture*), "***people***" (*social activities*), "***nature***" (including *weather* and *green features*), and "***lifestyle***" (including *places* and *things*). For his articulation of a *desirable* experience, he connected the following *metonymic chain*: (a) **sunny day** + **riding bike**, towards: (b) **cafe** + **eating outdoors** + **bread**, to then: (c) **walking** on **street** + **drinking** and **walking** + **coffee**, towards: (d) **ice cream shop** + **taking ice cream**, then: (e) **going to** + **gallery** + **art**, after: **going to** + **plant shop** + **buying** a **plant**. All these are associated with the following *metaphoric associations*: "***sunny day***" = "***ideal weather***", "***sunny day***" = "***enjoy outdoors***" (**ridding bike, eating outdoors, walking**) and: "***weekend***" = "***recreational activities***" (**eating** and **drinking outside -bread, coffee** and **ice cream-**, **visiting exhibitions**, **shopping -plants** for new home-, and "***sunny day****"* = "***ice cream***".

See *Image 093: DC-PS. Graphic-naire – Xuhui Riverside Park's card-set*, *Image 094: DC-PS. Graphic-naire – Xuhui Riverside Park's walk map*, and *Image 095: DC-PS. Graphic-naire – Xuhui Riverside Park's results*. These interviews' results at Xuhui Riverside show how:



Image 090. *DC-PS. Graphic-naire – Xuhui Riverside Park's card-set.*

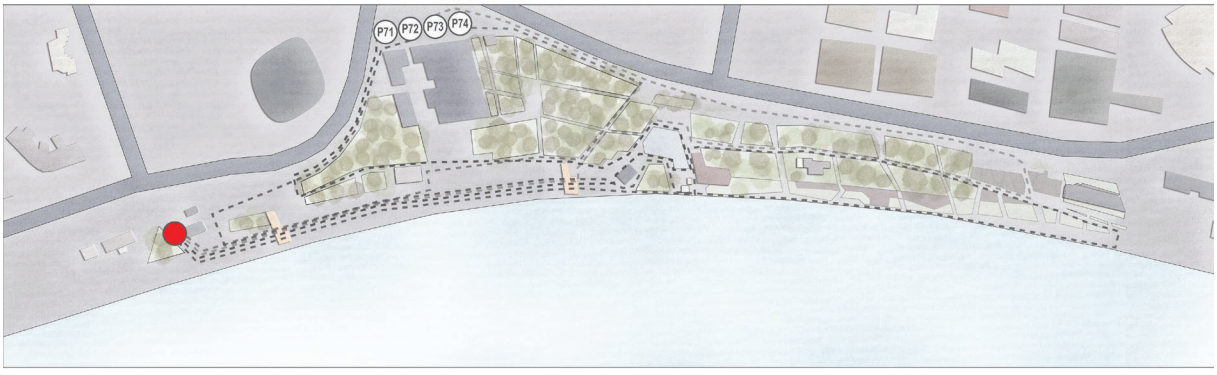


Image 091. *DC-PS. Graphic-naire – Xuhui Riverside Park's walks map*



Image 092. *DC-PS. Graphic-naire – Xuhui Riverside Park's results*

P71 (female - *city maker*) articulated the following eleven (11) groups: "***weather***", "***nature***" (including *green features*, and *water features*)", "***outdoor spaces***" (including *landmarks*, *sport features*, the Long Museum, and pets gathering -activity-), "***roads***" (*paths*), "***road's signals***" (*nodes*), "***transport***" (*types of transport*), "***buildings***", "***places***", "***things***", "***recreational activities***" (*social activities*), and "***working***" (*working, and cleaning* -activities-). For her articulation of a *desirable* experience, she connected the following *metonymic chain*: (a) **sunny day** "*on the* ***weekend***", (b) "***take a*** **Didi** + "***to bring*** *her* ***dog*** *to*" pets gathering "***to play*** *with other* ***dogs***", after (c) **walking** the **dog** + "*by the*" **climbing wall** + "*to the*" **baby sitting** "*area, to let the* ***dog*** *to* ***play with kids****",* then (d) "***bringing*** *the* ***dog*** *to the*" **pet's shop** "***for shower***" = "***finding a***" **vending machine** "***to buy water***" + "go to **play badminton** with **friends**", after (e) "***pick up*** *the* ***dog****, and* ***going to*** *a* ***pet's friendly***" **restaurant** "*for* ***dinner***" + "***going back*** *home at"* **night**. All these are associated with the following *metaphoric associations*: "***sunny day***" = "***outdoor activities***", and "***perfect*** ***weekend***" = "***enjoy*** *with* ***dog*** *and* ***friends***".

P72 (male - *city maker*) articulated the following six (6) groups: "***nature***" (including *weather*, *water features*, and *green features*), "***outdoor life***" (including *sport features*, sport activities, promenade and shopping street), "***transport***" (including *types of transport* and *paths*), "***landmarks***" (including *landmarks* and *buildings*), "***people***" (*social activities*), and "***places***". For his articulation of a *desirable* experience,

he connected the following *metonymic chain*: (a) "on Sunday ***take the***" **metro** "*to Xuhui*" + "***visiting a*** *friend's studio at*" **Fusion Bay sunken space** + "*and* ***to play*** *with the* ***street's***" **cats**, then (b) "***going to*** *the*" **grass** + "***to do***" **picnic**, after (c) "***take a***" **sharing bike** + "***cross*** *the* ***beautiful*** "**bridge**" + "***seeing people***" **climbing** + "*and the*" pets park, then (d) "***going to***" convenience store "*and get some* ***beers***" + "***take a***" **Didi** "***back home***". All these associated with the following *metaphoric associations*: "***Xuhui Riverside***" = "***perfect*** *destination for* ***weekend***", "*Picnic in front of the river*" = "***perfect activity*** *with* ***nice weather***", and "***unique design urban infrastructure***" = "***beautiful city***".

P73 (female - *city user*) articulated the following nine (9) groups: "***buildings***", "***places***", "***outdoor***" (including *landmarks*, *sport features*, *green features*, *water features*, pedestrian roads and promenade *-paths-*) "***roads***" (the rest of *paths*), "***transport***" (*types of transport*), "***people***" (*social activities*), "***animals***", "***weather***" and "***things***". For her articulation of a *desirable* experience, she connected the following *metonymic chain*: (a) "**going to**" **coffee shop** "***to start*** *the day with a* ***coffee***" + "*and to start*" **working**, at lunch (b) "***take a***" **Didi** "*with* ***friends*** *from* ***work***" + "*to the*" **promenade** "*at* ***Gate M***" + **chatting** "*and* ***eating lunch***" + "***back to*** *work*", then (c) "*at mid-afternoon,* ***take a break***" **seating** and **resting** "***in front of the river***" + "***pet*** *the* ***street's***" **cats** + "***enjoy*** *the* ***sky*** *and*" **clouds** + "***back to wok***", and after (d) "***going to*** *the* ***iconic***" **building** "*nearby*" + "*and*" **eating** "*dinner with other* ***friends***". All these are associated with the following *metaphoric associations*: "*no busy day at work with a few breaks*" = "***perfect day***", "***time to enjoy nature***" = "***nature***" = "***nice weather****, the* ***river, animals***" = "***perfect day***", and "***socialising with many friends and try different restaurants***" = "***perfect day***".

P74 (male - *city user*) articulated the following five (5) groups: "***things outside***" (including *buildings*, *landmarks*, *sport features*, *green features*, and *water features*) "***things form the road***" (including *paths*, *nodes*, and *types of transport*), "***where things can be bought***" (including *places* and *urban furniture*), "***random things***" (*things*), and "***life***" (including *social activities*, *weather*, and *animals*). For his articulation of a *desirable* experience, he connected the following *metonymic chain*: (a) "*in a* ***beautiful*** *day*" **sunny day** + **rainbow** + "*and* ***nice***" **wind** (b) "*by*" **jogging** + "***going to*** *the*" **Huangpu River**, there (c) **take pictures** + "***visiting***" **places**, then (d) **laying down** + "*in the*" **grass** + "*and* ***enjoy*** *the* ***views*** *of*" **the orange cranes** "*and* ***river***", and after "***going to*** *the*" **convenience store** + "*and* ***buying ice cream***" (the participant added this card). All these are associated with the following *metaphoric associations*:

"***sun, rainbow,*** *and* **light wind**" = "***nice*** *day*" = "***perfect*** *for* ***jogging***", "***jogging outside*** *and* ***laying*** *on the* ***grass*** ***looking*** *at the* ***sky*** *and the* ***river***" = "***healthy***" = "***desirable*** *life*", and "***summer sunny day***" = "***ice cream***".

See *Image 093: DC-PS. Graphic-naire – Lujiazui's card-set*, *Image 094: DC-PS. Graphic-naire – Lujiazui's walk map*, and *Image 095: DC-PS. Graphic-naire – Lujiazui's results*. These interviews' results at Lujiazui Riverside show how:



Image 093. *DC-PS. Graphic-naire – Lujiazui's card-set.*



Image 094. *DC-PS. Graphic-naire – Lujiazui's walks map*

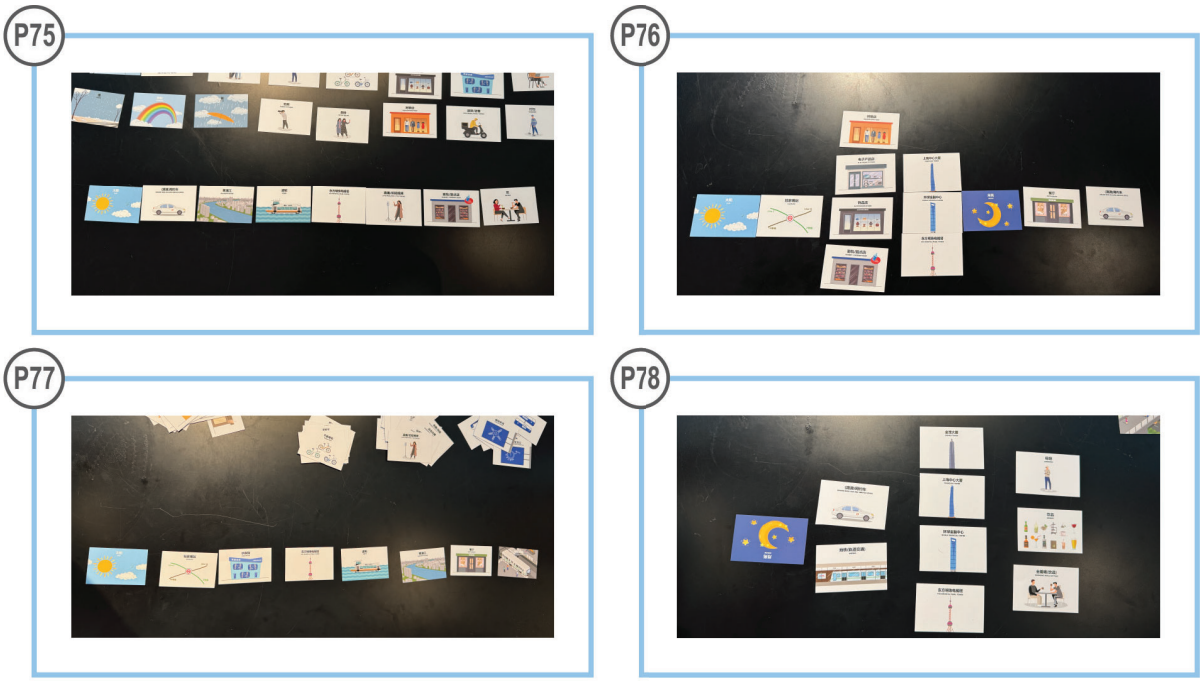


Image 095. *DC-PS. Graphic-naire – Lujiazui's results*

P75 (female - *city maker*) articulated the following eleven (11) groups: "***people's food***" (food related *things*), "***people's purchases***" (the rest of *things*), "***people's leisure activities***" (leisure *social activities*), "***plants***" (*green features*), "***weather***", "*the* ***river***" (*water features*), "***roads***" (*paths*), "***people's working activities***" (working *social activities*), "***transportation***" (*types of transport*), "***buildings***", and "***places***". For her articulation of a desirable experience, she connected the following

metonymic chain: (a) **sunny day** "*me and my friends"* + "***take*** *a*" **Didi** + "to" **Huangpu River** + "***to take***" the **ferry** + "*to*" the **Pearl Tower**, then (b) "*under the* ***tower*** *and we* ***saw lots of people*** *that are* ***doing***" **live streaming** + "*one of the young ladies, she was* ***introducing*** *a* ***famous***" **bakery** "*around the corner, so me and my friend go there to*" **eat** "***bread*** *and* ***coffee***"; all these associated with the following *metaphoric associations*: "***nice day***" = "***outdoor activities***", "***ferry*** *and* ***high-rises***" = "***unique experience*** *at Shanghai*", "***influencers' advices***" = "***good places to visit***".

P76 (male - *city maker*) articulated the following ten (10) groups: "***iconic buildings*** *in* ***Puxi***" (*buildings*), "***iconic buildings*** *in* ***Pudong***" (*buildings*), "***places***", "***weather***", "***green areas***" (*green features*), "***things***", "***people***" (*social activities*), "***transportation***" (*types of transport*), "***traffic signals***" (*nodes*), and "***roads***" (*paths*). For his articulation of a *desirable* experience, he connected the following *metonymic chain*: (a) **sunny day** "*with* ***clear sky*** *to* ***enjoy*** *the views* (**watching**) *from the* ***towers***", (b) "***take*** *the*" **metro** "*with my wife*" + "***go*** *for* ***shopping*** *in*" **fashion boutique** + **electronic stores** + **accessories store** + "*and* ***have*** *some* ***snacks*** *in a*" **dessert shop** "*an* ***ice cream***", later (c) "***visiting*** *the*" **Pearl Tower** + "***going*** *to*" the **World Financial Center** "*for a* ***drink*** *in the* ***bar***" + "*at* ***night we move*** *to*" the **Shanghai Tower** "*to the* ***highest restaurant in the world*** (**prestige**) *to have* ***dinner***", (e) "*after an* ***amazing date*** *with my wife,* ***go back home*** *by*" **Didi**. All these are associated with the following *metaphoric associations*: "***sunny day***" = "***good day***", "***clean sky***" = "***perfect*** *for* ***Lujiazui's towers*** *views* (**watching the entire city**)", "***Lujiazui's high-rises***" = "***world's unique experience***", and "***spend time with wife***" = "***perfect date***" = "***good quality shopping, eating*** *and* ***drinking***".

P77 (female - *city user*) articulated the following ten (10) groups: "***weather***", "***plants***" (*green features*), "**road**" (paths), "***road intersection***" (*nodes*), "***transportation***" (*types of transport*), "***iconic buildings***" (*buildings*), "***people***" (*social activities*), "***money***" (ATM), "***food related***" (including food, drinks -*things*-, restaurant, bar -*places*- and delivery food -*activity*-), and "***shopping***" (shops -*places*-, and *things*). For her articulation of a *desirable* experience, she connected the following *metonymic chain*: (a) **sunny days** "***with the family***" + "***to take*** *the*" **metro** + "***to*** *the*" **Aquarium**, then (b) "***to visit***" the **Pearl Tower** + "*and* ***taking*** *the*" **ferry**, after (c) "*to* ***find*** *a*" **restaurant** "***eating***" + "*and* ***go home*** *by*" **metro**. All these are associated with the following *metaphoric associations*: "***sunny day***" = "***nice day***", "***weekend***" = "***time with family***", and "**special activity**" = "***ferry and high-rises***" = "***The Pearl Tower***".

P78 (male - *city user*) articulated the following seven (7) groups: "***buildings***", "***places***", "**things**", "***people***" (*social activities*), "**outdoor**" (including *weather* and *paths*), "***street signage***" (*nodes*), and "***transportation***" (*type of transport*). For his articulation of a ***desirable experience***, he connected the following *metonymic chain*: (a) "***at night*** *with the*" **moon**, (b) "***going to Lujiazui*** *by*" **Didi** "*If it is not* ***peak hour***" + "*or* ***by***" **metro** "*if it is a* ***peak hour***" + "*I will* ***go*** *for a* ***rooftop*** *in one of the* ***towers to see the lights*** *of the* ***skyline***" **Jinmao Tower** + **Shanghai Tower** + **World Financial Center** + "*and*" the **Pearl Tower**, (c) "*for*" **smoking** + "***take***" **drinks** "***with friends***" + **drinking** while **sitting** "***appreciating*** *the lights of the* ***city*** *in a* ***chill night***". All these are associated with the following *metaphoric associations*: "***Lujiazui***" = "***lights***", "***Didi***" = "***enjoy*** *the* ***ride***", "***metro***" = "***efficiency on rush hours***", "***rooftop bars***" = "***chill parties***", and "***smoking***" = "***party***".

See Image 096: DC-PS. Graphic-naire – The Power Station of Art Riverside Park's card-set, Image 97: DC-PS. Graphic-naire – The Power Station of Art Riverside Park's walk map, and *Image 98: DC-PS. Graphic-naire – The Power Station of Art Riverside Park's results*. These interviews' results at the Power Station of Art Riverside show how:



Image 096. *DC-PS. Graphic-naire – The Power station of Art Riverside Park's card-set*

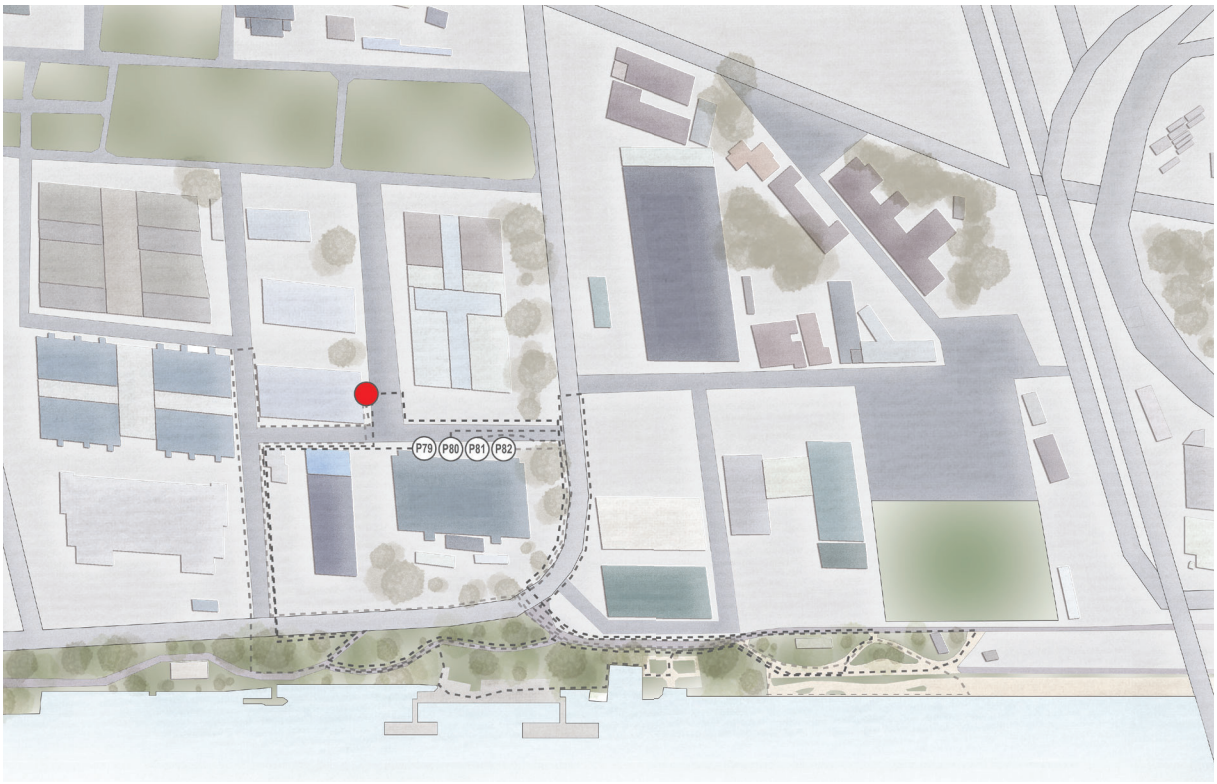


Image 097. *DC-PS. Graphic-naire – The Power station of Art Riverside Park's walks map*

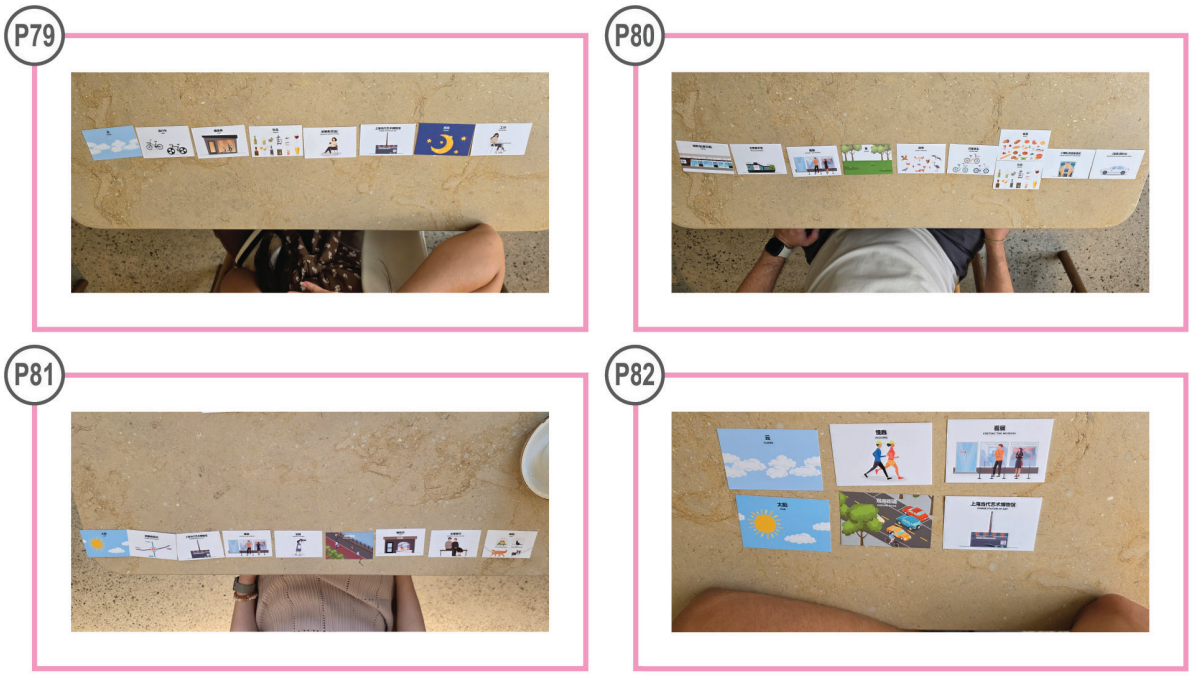


Image 098. *DC-PS. Graphic-naire – The Power station of Art Riverside Park's results*

P79 (female - *city maker*) articulated the following seven (7) groups: "***weather***", "***green landscape***" (including *green features* and *sport features*), "***river landscape***" (including *water features*, *landmarks*, and *promenade*) "***street's landscape***" (including *paths*, *nodes*, and *types of transport*) "***urban landscape***" (including *buildings*, *places*, *urban furniture* and *urban art*), "***people***" and "***things***". For her

articulation of a *desirable* experience, she connected the following *metonymic chain*: (a) "*in a* ***nice day*** *with* ***blue sky*** *and*" **clouds** "*not too hot*" + "***take*** *my*" **bike** + "***to*** *the* ***gym***", after (b) "***buying*** *a*" **coffee** + **drinking** "***it***" while **sitting** "*and* ***chill***", then (c) "***going to***" the **Power Station of Art** "*and* ***see*** *their* ***exhibition*** *for* ***inspiration***", and (d) "***at***" **night** + **working** "*on my freelance* ***projects***". All these are associated with the following *metaphoric associations*: "***ideal day***" = "***blue cloudy day*** *because it is not too hot, but still* ***nice***", "***discipline*** *with the* ***gym*** *and* ***intermittent fasting***" = "***perfect body***", "***art exhibitions***" = "***interior design inspiration***", and "***night***" = "***ideal time*** *for* ***working*** *because* ***less distractions***".

P80 (male - *city maker*) articulated the following seven (7) groups: "***spaces***" (including *places*, *sport features*, and *buildings*), "***road signals***" (*nodes*), "***things***" (including *things* and *urban furniture*), "***transport***" (including *types of transport*, and *paths*), "***landscape***" (*green features*), "***weather***" and "**life**" (including *social activities* and *animals*). For his articulation of a *desirable* experience, he connected the following *metonymic chain*: (a) "***take*** *the*" **metro** + "***to***" **Team Lab Museum** + **visiting** the **exhibition**, then (b) "***going outside*** *to the*" **grass** + "***seeing*** *the*" **animals**, after (c) "***take***" **sharing bikes** + "***to go*** *for*" **drinks and food** "***with friend***" + **the hot spring** "***spa with wife***", and (d) "***take*** *a*" **Didi** "*to* ***home***". All these are associated with the following *metaphoric associations*: "***art exhibitions***" = "***excitement***" = "***desirable activity***", "***ideal weekend***" = "***balancing art, nature, socialising, and married life***", and "*Shanghai's* ***public transport***" = "***comfortable and convenient***" = "***pleasant***".

P81 (female - *city user*) articulated the following six (6) groups: "***natural***" (including *weather* and *green features*), "***riverside***" (including *water features*, *landmarks*, *buildings*, and promenade), "***things to do***" (*social activities*), "***streets' names***" (*nodes*), "***business***" (*places*), and "***public***" (including *sports areas* and metro & bus). For her articulation of a *desirable* experience, she connected the following *metonymic chain*: (a) **sunny day** + "**take** *the*" **metro** + the **Power Station of Art**, there (b) **visiting** the **museum** + **taking picture** "*of the art*", then (c) "walking *by the* river *in the*" **promenade** + "**to** *the*" **café**" + "**sitting** *outside,* ***with a friend***" **chatting** while **sitting** + "*and* ***seeing*** ***other people's***" **pets** "*and* ***interact with them***". All these are associated with the following *metaphoric associations*: "***sunny day***" = "***nice day***", "***taking pictures*** *of art*" + "*for* ***posting*** *in* ***WeChat's moments***" = "***perfect*** *for* ***sharing*** *with* ***contacts interesting activities***", "***chatting with friends outdoor***" = "***desirable activity***", and "***dog***" = "***favourite pet***" + "*no possibility to have a* ***dog***" = "***playing*** *with*

other people's dog *is an* ***ideal compromise***".

P82 (male - *city user*) articulated the following five (5) groups: "***landscape***" (including *weather*, *water features*, *sport features*, promenade), "***road things***" (including *types of transport, paths*, and *nodes*), **architecture** (including *buildings*, *places*, *urban art*, and bridge), "***people***" and "***various***" (including *things*, *urban furniture*, and *animals*). For his articulation of a *desirable* experience, he connected the following *metonymic chain*: (a) "***if nice***" **cloudy day** + **jogging**, "if" **sunny day** + **biking**, (b) "***going to***" the **Power Station of Art** + **visiting the exhibition**. All these are associated with the following *metaphoric associations*: "***cloudy day***" = "*not too* ***hot***" = "***ideal*** *for* ***jogging***", "***sunny day***" = "***hot***" = "***ideal*** *for* ***biking***", and "***art exhibitions***" = "***interesting***".

See *Image 099: DC-PS. Graphic-naire – Luxun Park's card-set, Image 100: DC-PS. Graphic-naire – Luxun Park's walk map,* and *Image 101: DC-PS. Graphic-naire– Luxun Park's results*. These interviews' results at Luxun Park show how:



Image 099. *DC-PS. Graphic-naire – Luxun Park's card-set*



Image 100. *DC-PS. Graphic-naire – Luxun Park's walks map*



Image 101. *DC-PS. Graphic-naire – Luxun Park's results*

P83 (female - *city maker*) articulated the following seventeen (17) groups: "***food and drinks***" (eatable *things*), "***playground***" (*sport features*), "***instruments and sport equipment***" (recreational things), "***iconic building***" (*buildings*), "***iconic places***" (*places*), "***stadium***" (*landmark*), "***statute***" (*urban art*), "***weather***", "***people***" (*social activities*), "***landscape***" (*green features*), "***animals***", "***sharing services***" (power bank-*urban furniture*- sharing bikes -*type of transport*-), "***pedestrian ways***" (*paths* for people), "***public ways***" (*paths* for public transport), "***vehicles' ways***" (*paths* for

vehicles), "***transportation***" (*types of transport*), and "***transport signs***" (*nodes*). For her articulation of a *desirable* experience, she connected the following *metonymic chain*: (a) "*a* ***day*** *with*" **wind** + "***going*** *to do some* ***exercise*** *by*" **biking** + "*to*" **Luxun Park**, there (b) "*I* ***like*** *to* ***see*** *how everyday* ***older people*** *are*" **playing** chess + "*and* ***younger people*** *are*" **playing badminton** + "***surrounded*** *by* ***nature*** *and*" sculptures, after (c) "***I go*** *to the*" **tea house** "***to have traditional Chinese tea***", and finally (d) "***going home*** *by*" **metro**. All these are associated with the following *metaphoric associations*: "***perfect experience***" = "***weekend****,* ***doing exercise*** *and* ***relax****"* = "***windy day***", "***favourite exercise***" = "***biking***", and "***favourite relaxing day***" = "***see nature*** *and* ***cultural activities*** *in the* ***park*** *and* ***drinking*** ***green tea*** *quietly* ***with meditation music***".

P84 (male - *city maker*) articulated the following five (5) groups: "*surrounding* ***buildings***" (*buildings*), "*inside the* ***park***" (including *urban art*, *green features*, *water features*, and street animals), "***weather***", "**transportation**" (including *types of transport*, *paths*, and *nodes*), and "***people***" (*social activities*). For his articulation of a *desirable* experience, he connected the following *metonymic chain*: (a) "*At night after* ***work*** *with the*" **moon** + "***coming*** *in my*" **electric scooter** "*to the park to*" **jogging** + "*and*" **stretching** + "*in the*" **sport areas**, + "*ending with a*" **meditation**, (b) "*when I finish* ***I will***" take **selfies** "***to post*** *it* ***in WeChat and Instagram***", + "***going*** *to*" the **kiosk** + "*for a*" **drink**, "and **going home** to **sleep**". All these are associated with the following *metaphoric associations*: "*Perfect* ***day***" = "***time for yourself***" = "*every* ***day*** *can be* ***a perfect*** *day even after a* ***busy day at work***", "***perfect feeling***" = "***doing exercises****, after* ***doing stretching****, after doing* ***meditation***", and "***social media***" = "***ways to connect with people***".

P85 (female - *city user*) articulated the following ten (10) groups: "transportation systems" (*types of transport*), "road and signs" (*paths and nodes*), "weather", "iconic buildings" (including *buildings* and *urban art*) "plants" (*green features*), "*inside* ***park***" (including *water features*, *sport features*, pavilions, *paths*), "***animals***", "***food related***" (restaurants, bars -*places*-, food, drinks -*things*-), "***tools***" (*urban furniture*), and "***people's activities***" (*social activities*). For her articulation of a *desirable* experience, she connected the following *metonymic chain*: (a) **cloudy day** "*because* ***weather*** *is* ***too hot*** *these days*" + "***going*** *there by*" + "*to* ***play***" **badminton**, after (b) "***take*** *a*" **Didi** + "*to a*" **Chinese restaurant** "***to eat noodles***", finally (c) "***take***" **metro** "***home***". All these are associated with the following *metaphoric associations*: "***ideal day*** *at the* ***park***" = "***weekends' routine***", "***perfect weekends***" = "***playing***

badminton with friends and eating together in a restaurant afterwards", "***perfect*** *weather for* ***badminton***" = "*cloudy*".

P86 (male - *city user*) articulated the following three (3) groups: "**nature**" (including *weather*, *green features*, *water features*, and *animals*), "***city***" (including *buildings*, *places*, *urban art*, *urban furniture*, *paths*, *nodes*, and *types of transport*), and "***people***" (*social activities*). For his articulation of a *desirable* experience, he connected the following *metonymic chain*: (a) **sunny day** "on **weekend day** + "**take** a" **sharing bike** + "**going** to the" **Chinese restaurant** "**with the views** of the **park's lake**" + "**have** some" **food**, after (b) "**walk**" on the **grass** + around the **lake** + "and **see** the" **lotus flowers**, then (c) "I **love**" **reading** "**outside**" + "and" **seating relaxing** + "while **seeing old people**" **dancing** + **playing instruments** + "and **doing**" **floor calligraphy** "with **water**". All these are associated with the following *metaphoric associations*: "***ideal weather***" = "***sunny***", "***favourite part of the week***" = "***weekend***", "***favourite*** *activities*" = "***eating*** *outside and* ***relaxing outdoor***", "***Luxun Park***" = "***Chinese culture***" = "***traditional activities***", and "***favourite traditional activity***" = "***floor calligraphy with water***" = "***ephemeral art***".

See *Image 102: DC-PS. Graphic-naire – Found 158's card-set*, *Image 103: DC- PS. Graphic-naire – Found 158's walk map*, and *Image 104: DC-PS. Graphic-naire – the Fund 158's results*. These interviews' results at Found 158 show how:



Image 102. *DC-PS. Graphic-naire – Found 158's card-set*

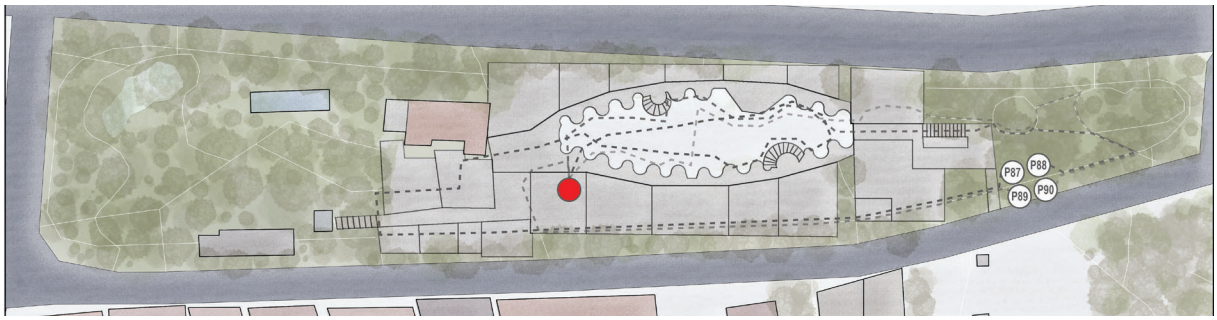


Image 103. *DC-PS. Graphic-naire – Found 158's walks map*

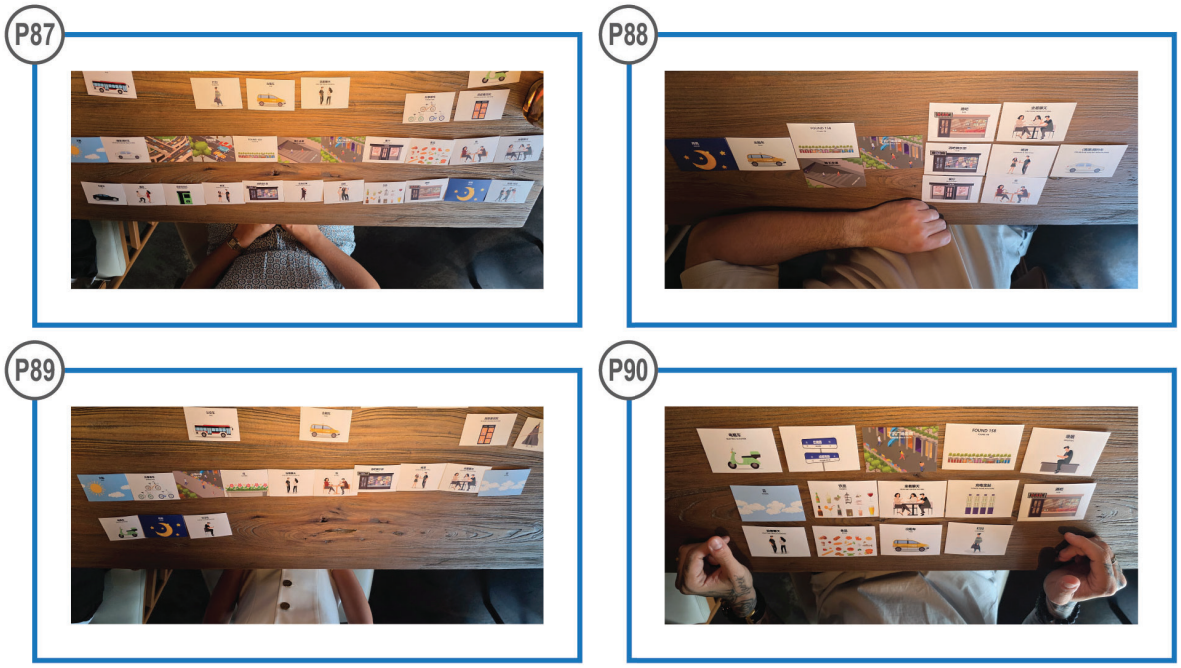


Image 104. *DC-PS. Graphic-naire – Found 158's results*

P87 (female - *city maker*) articulated the following twelve (12) groups: "***weather*** *options*" (*weather*), "***natural***" (*green features*), "***transportation*** *options*" (*types of transport*), "***vehicles' street*** *options*" (some *paths*), "***pedestrian' streets'*** *options*" (the rest of *paths*), "***animals***", "***food*** *and* ***drinks***" (*things*) "***service*** *options*" (*places*), "***self-service machines***" (*urban furniture*), "***street workers***" (including cleaning, delivery food -activities-), "***outdoor activities***" (some *social activities*), and "***indoor activities***" (the rest of *social activities*). For her articulation of a *desirable* experience, she connected the following *metonymic chain*: (a) "***during the day****, with the*" **sun** + "***take*** *a*" **Didi** + "***see*** ***Found 158*** *from the* ***Yan an*****" elevated road** + "***get into***" **Julu Road** + "*and* ***get in*** *from the"* **pedestrian tunnel**, there (b) "***cross*** *the*" **sunken space** + "*to the* ***Brazilian***" **restaurant** + **eating** "***with friends***" + "***steak and Brazilian***" **food** + **chatting** while **sitting**, then (c) "***walk*** *to the* ***French***" **bar** + **at night** + "***take*** *some*" drinks + **taking selfies**, after (d) **drinking** while **walking** "***towards***" + the **club** + **partying** "*there*" + "***use*** *the"* **photo booth** + "*and*" **dancing**, and (e) "***take*** *a*" Didi "*to*

go to sleep". All these are associated with the following *metaphoric associations*: "*the **Found 158***" = "*no metro, only **taxi, bikes** or **scooters***", "***Found 158***" = "***ideal for diversity** of **food and beverage***" = "***cosmopolitan lifestyle***", "***selfies***" = "***Instagram's post***" + "***sharing lifestyle***", "***photo booths***" = "***fun with friends***" = "***collecting memories***", and "***partying***" = "***disconnection from work** and **stressful things***".

P88 (male - *city maker*) articulated the following five (5) groups: "***self-service machines***" (*urban furniture*), "***transportation***" (including *types of transport*, *paths*, and *nodes*), "***places***" (including *buildings* and *places*), "***activities***" (*social activities*), and "***weather***". For his articulation of a *desirable* experience, he connected the following *metonymic chain*: (a) "**only go** at" **night** + "by" **taxi** + "**enter** to" **Found 158**" + "**through** the" **underground passage** + "to **stay** on the" **sunken plaza** "for **partying with friends**", there (b) "**my friends and I going** to" **bars** + **restaurants** + "and" **clubs** + "to" **chatting** while **sitting** + **drinking** (c) "**after all night partying** and **drinking** we go to a **24h**" **restaurant** + **eating** + "and **go home** by" **Didi**. All these are associated with the following *metaphoric associations*: "*the **Found 158***" = "***night life***" = "***place for destress***", "*the **Found 158***" = "***convenient** destination **going out***" = "*many **restaurants**, **bars** and **clubs** next to each other*", "***drinks***" = "*relaxation*", "***after drinks***" = "***eating***", and "***drinking** and **eating with friends***" = "***perfect Friday and Saturday activities***".

P89 (female - *city user*) articulated the following five (5) groups: "***nature***" (including *weather* and *animals*), "***lifestyle***" (including *social activities* and *things*), "***professions***" (including delivering food and cleaning -activities-), "***locations***" (including *buildings*, *places*, *paths*, and *nodes*), and "***tools***" (including *urban furniture* and *types of transport*). For her articulation of a *desirable* experience, she connected the following *metonymic chain*: (a) "*on a*" ***sunny day*** + "**going** *by*" **bike** + "***to***" **Found 158** + "*and **see** the*" **flowers** "*when arrive there*" (b) "**meet with friends**" **talking** while **standing** + **eating** "***lunch***" + "***going** to*" a **bar** + **drinking** while **standing** + "***find** a **table** when I **get tired and continue***" **chatting** while **sitting**, after (c) "*when the **sun** is gone, **call** my boyfriend, to **pick me up** in his*" **scooter** + "*and bring me home where I **spend the rest of**'* **the night** + "***relax***" **reading** "*until falling asleep*". All these are associated with the following *metaphoric associations*: "***sunny and warm***" = "***favourite weather** for outdoor*", "***cold temperature***" = "***preferably** at **home cozy***", "***flowers***" = "***beautiful landscape***", "*the Found 158*" = "***daytime socialising on***

weekends", "*socialising*" = "*healthy routine*" = "*energy consuming*", "*relaxation*" = "*reading at home, at evening*", and "*working*" = "*sitting*" = "*socialising*" = "*standing*" = "*healthy*".

P90 (male - *city user*) articulated the following six (6) groups: "*Found158*" (including *paths*, *places*, *things*, *urban furniture*), "*weather*", "*actions*" (*social activities*), "**parks**" (including *green features*, *sport features*, *animals*), "*transport*" (including *types of transport* and *nodes*), and "*landmarks*". For his articulation of a *desirable* experience, he connected the following *metonymic chain*: (a) "*after a* ***successful*** *day at* ***work***, *take my*" **scooter** + "*parking at the interception of*" **Julu Road and Chengdu Road** + "*going to*" the **sunken plaza** + "*of*" the **Found 158**, there (b) **smoking** "*shisha*" + "*making*" clouds "*in the* ***whole terrace***" + "*order some*" **drinks** + "*get a*" **power bank** + "*going to*" a bar "***for good live music***", (c) "*on the band's breaks go outside*" **chatting** while standing + "*going for*" food "**at the end**", and finally, (d) "*left my scooter because I am* ***drunk***" + get a taxi + "*and* ***knew*** *that I had a* ***wonderful time*** *until the very end, because* ***I can see*** *the* ***city's staff***" **cleaning** "***the streets***". All these are associated with the following *metaphoric associations*: "*perfect day*" = "***successful*** *day at work*" + "***smoking, drinking and listening to live music*** *until the next day,* ***drunk*** *and* ***happy***" = "***work hard, play hard***", "*clouds*" = "***smoking shisha***", and "***after drinking***" = "***eating is ideal***".

Methodologically, these last thirty six (36) empirical experiments aligned with the guidance for visual methods and protocols for ethical qualitative research (Christians 2009, 144–48; Rose 2016, 359–66), all these empirical experiments occurred in public or semi-public settings without obstructing circulation. Participants were briefed, gave informed voluntary consent, were pseudonymised (P-numeric codes only), and could disengage anytime. Visual records of the cards arrangements avoided close-ups on participants and non-participants; decks reproduced public settings without proprietary content that could conflict with the brand's images.

The *Graphic-naire* first validated the representational carrier (photo to graphic). Then it demonstrated the method's capacity to elicit macro level reasoning and semiotic composition across nine sites with *city makers* and *city users* alike. Empirically, the instrument allowed participants to move from isolated features to site- wide scenarios without relying on memory alone. Methodologically, the shift to minimal graphics directly addressed the *Photo-naire's* recognition ambiguity, showing why the carrier of the sign matters for inquiry, which explicitly positioned *Desirable Cities* within a *Pragmaticism* paradigm, where meaning is established through its ontological bearings

on phenomenological conduct. These results demonstrate that future deployments can carry forward the go-along + deck + storyboard trio while extending temporal sensitivity (weather/rhythms) through repeated walks or lightweight audiovisual traces.

As for the semiotic analysis, the *Graphic-naire* demonstrated its capacity to elicit the singular desirability of each participant, and most importantly, how from that singularity, social patterns emerge. For example, female *city makers* made an average of ten and a half (10.5) groups, male *city makers* made an average of six (6) groups; while female *city users* made an average of six and a half (6.5) groups, and male *city users* made an average of four (4) groups. Combined, these results show that *city makers* made an average of nine (9) groups in comparison with the *city users*' selection, which was six (6) groups on average. Additionally, female participants scored the largest average number of groups with nine and a half (9.5), in comparison with the male participants, who selected an average of five and a half (5.5) groups. See *Image 106: DC-PS. Graphic-naire – results.*

Some participants, like *P58*, *P60*, *P85* and *P81*, choose as *desirable* experiences what they regularly experienced in their routines, while participants like *P55* and *P69* choose experiences that they cannot currently have because they wanted to walk "their dog", but they don't have one (which they acknowledge during the interview). Other participants like *P55*, *P57*, *P63*, *P65*, *P68*, *P69*, *P75*, *P76*, *P78*, *P86* and *P87*, emphasised prestigious restaurants and bars on their *desirable* experiences, while *P59*, *P60*, *P61*, *P64*, *P66*, *P70*, *P77*, *P80*, *P84*, *P88* and *P90* only mentioned generic categories or just food and beverages. Participants *P58*, *P60*, *P74*, *P79*, *P80*, *P82*, *P83*, *P84* and *P85*, emphasised on healthy experiences that included exercises. Participants *P67*, *P74*, *P75*, *P87* and *P81*, mentioned taking pictures, selfies, and posting on social media, and influencers' advice; and participants *P55*, *P56*, *P57*, *P60*, *P62*, *P63*, *P66*, *P67*, *P68*, *P69*, *P74*, *P75*, *P76*, *P77*, *P78* and *P80*, mentioned iconic buildings and "*singular objects*" (Baudrillard and Nouvel 2002, 10– 19).Regarding the weather, participants *P57*, *P60*, *P61*, *P62*, *P63*, *P65*, *P67*, *P69*, *P70*, *P71*, *P74*, *P75*, *P76*, *P77*, *P81*, *P82* and *P89,* choose a sunny day; participants *P55*, *P62*, *P63*, *P73*, *P79*, *P82*, *P85* and *P90*, choose a cloudy day; participants *P65*, *P74*, and *P83* choose a windy day; participants *P58*, *P59* and *P74*, choose a rainbow as a metaphor of a beautiful day, without associating it with raining; participants *P57*, *P64*, *P65*, *P68*, *P76*, *P78*, *P84*, *P87*, *P88* and *P90*, choose night. Another metaphor that emerged was a sunny day in association with eating ice cream, highlighted by participants *P59*, *P61*, *P63*, *P67*, *P69*, *P70* and *P74*. And in terms of the tool itself, participants *P57* and *P74* suggested adding cards in the Bund's card set:

"*sunset*" and "*Lujiazui's skyline at night with the lighting performance*", and "*ice cream*" in Xuhui Riverside Park's card set, which were sketched by hand on tissue papers at the place of the interview and added in the storyline.

And finally, concerning sites, the synchronisation in the types of activities individuals select in a particular location, as opposed to the absence of similar activities in another location, also implies the materialisation of urban mimetic behaviour connecting these findings with the work of Girard and "*mimetic desire*" (Girard 2000, 284), which also aligns with the theory of Lacan (Girard 2000, 289), and explains what was observed during the *Shanghai-map*. All these findings demonstrated the capacity of the *Graphic-naire* to elicit participants' preferences for desirable urban experiences, through the identified and mapped elements and conditions, or by triggering in participants the possibility of adding new variables, like the added cards.

4.6.6. *Desirable Cities*' framework positioning: Conclusions for the *Desirable Cities*' framework and tools design

Across these five empirical experimentations: *Shanghai-map*, *Question-naire*, *Picture-naire*, *Photo-naire*, and *Graphic-naire*, *Desirable Cities* developed, step by step, tools to elicit and understand how city stakeholders come to *desire* urban experiences, talk about these, and perform public spaces. These established two anchors for what follows: triangulated methods and participant-led interpretation. The *Question-naire* confirmed that language-only exchanges tend to produce thin, generic descriptors and struggle to capture multisensory, affective dimensions. That visual turn was not cosmetic; it was methodological. The *Photo-naire* introduced a macro level catalogue so participants could reason beyond memory, yet the medium itself produced recognition-noise: saturated photographs embed multiple cues and reduce agreement about "*what the sign is*". The *Graphic-naire* therefore changed the carrier of the sign. Minimal illustrations isolated single elements, increased recognition stability (from ~50% with photo-cards to ~90% with graphic-cards with the same participants and sites), and unlocked generative composition at both micro and macro scales.

In practice, short immersive walks helped the participants to refresh embodied impressions, followed by table-top grouping and storyboarding that let participants move from isolated features of the entire site scenarios without relying on memory alone. These phases collectively demonstrated why the form of prompts matters and how carefully chosen visual carriers help people surface categories, link elements

semiotically, and express their expectations of feelings, activities, and meanings, from their phenomenological interactions with urban spaces. The way forward, therefore, concerns qualities that the final experiment should embody rather than a pre-fixed design.

First, situated cognition is necessary to bridge the people's perceptions and interpretations of the environment. A walk-then-talk sequence ensures that raw noticing is not retrofitted to prompts. In practice, this takes the form of immersions, followed by structured elicitation. The visual data recorded during the *Graphic-naire* facilitated the semiotic analysis post interview, suggesting that recording visual data of the walk-then-talk sequence would be beneficial and a multi-angle record could facilitate and elicit the digital–physical, seeing–saying–doing, loop of the empirical testing.

Second, language must be paired with visual and diagrammatic aids, without pre-empting participants' ideas and mental structures. The playful cards used during the *Graphic-naire* provided a macro catalogue of the field's components and conditions, organised as *natural*, *cultural*, and *constructural*, which included orientation elements such as *paths*, *edges*, *nodes*, and *landmarks*; social behaviours; and functional typologies. These allowed participants to sort the entire macro dimension of the field of research, and entertain, visualise and communicate in a storyboard their desirable scenarios on a plane where everything is simultaneously visible. However, structural relationships and contexts were missing, and vocabularies were limited at times. Addressing these structural and lexical options, for participants to identify and communicate better all the possibilities of their expectations for *holistic desirable* urban experiences must be implemented from open questions to structural details, keeping the authorship in their hands. Thus, recognition comes first, generation second.

Third, the protocol must build comparison into its very structure, not add it as an afterthought. Sampling remains role sensitive (*city makers* and *city users*), and the testing design should introduce a *tools group* and a *control group* answering the same questions without tools to provide a comparative logic and evidence of the tools' performance. Therefore, the analysis should be organised along three axes: visual and verbal data, *city makers* and *city users*, and *tools* vs. *control* groups.

Fourth, following best anthropological practice, the study must secure thick description, triangulation, reflexivity, and ethical care. Thick description is designed, not hoped for: field immersion, multi-modal records (video, audio, drawing, writing), and layered prompts produce a dense archive linked to context. Triangulation is operational, spanning data sources (walks, talks, tools), methods (observation, elicitation, composition), and

participants (*city makers* and *city users*). This triangulation is not a routine validity check but the methodological expression of *Pragmaticism*. Abduction draws on heterogeneous traces (protocols and tools) to propose what might be going on; deduction builds those proposals into comparative structures (*city makers* and *city users*) that force the claim to meet resistance; induction then looks for convergence and productive divergence across sources, methods and persons, reading the seeing–saying–doing loop that the walk-then-talk protocol was built to surface. As more modalities are coordinated, the stronger the triangulation, the stronger the *Pragmaticism* assures that the tools perform in their relationship, making signs practically legible to *city makers* and *city users* rather than merely decorative. In this sense, triangulation and *Pragmaticism* entail one another, as triangulation supplies the multi-perspectival evidence *Pragmaticism* requires, while *Pragmaticism* gives triangulation its purpose, testing the practical bearings of signs in lived urban experiences. Reflexivity is explicit, with a running journal and transparent audit trail for protocols and analysis. Ethical precautions around consent, anonymity in crowded settings, and data security are baked into both recording practices and how images are reproduced in the thesis.

Fifth, measurement must match the object of inquiry. Rather than forcing statistical generalisation, the final experiment specifies qualitative measurements that test the added value of the supports: thematic richness and depth; *holistic* integration across *natural*, *cultural*, and *constructural* dimensions; articulation of *desire* aligned with the urban adaptation of Peirce's *Pragmaticism* paradigm (expectations of *feelings*, *activities*, and *meanings*); communicative efficacy (clarity, coherence, shareability); and a transparent appraisal of tool performance. These measures position *Desirable Cities'* comparative design into a proof-of-concept test that others can inspect and replicate.

Finally, the inquiry must remain consistent within the framework of *Pragmaticism*'s logic. Abduction proposed that didactical visual tools could help elicit urban *desirability*; deduction organised a comparative design to examine that claim; induction will read the multi-modal evidence for the practical bearings of people's signs on their conduct in place. Therefore, the field of research serves as a demanding stage rather than an object of evaluation; the goal is transferability of the method, and performance of the tools in their relationship with the holistic and interdisciplinary theoretical articulation, not universality of the site findings.

FRENCH SUMMARY OF PART THREE

LE CADRE THÉORIQUE DE *VILLES DÉSIRABLES*

5. INTRODUCTION AU CADRE THÉORIQUE DE *VILLES DÉSIRABLES*

Le cadre théorique de *Villes Désirables* synthétise les connaissances de différents domaines académiques pour comprendre la relation entre les individus et leur environnement et la manière dont les attentes en matière d'expériences urbaines désirables façonnent cette interaction. Ce cadre jette des ponts entre la philosophie, l'écologie, la biologie, la sociologie, l'anthropologie, la psychologie, la sémiotique, la communication et l'économie, fournissant une perspective *holistique* sur le développement des villes.

Le champ d'application s'étend au-delà des études urbaines traditionnelles, rassemblant des perspectives *interdisciplinaires* pour créer une compréhension globale qui reconnaît les dimensions *naturelle*, *culturelle* et *construite* des espaces urbains, transcendant une focalisation réductrice sur les seules fonction et forme. Les villes sont des entités complexes façonnées par les systèmes écologiques de la Terre et par les processus biologiques, sociologiques et psychologiques des individus. Ce cadre élargit le paradigme traditionnel pour comprendre comment les villes peuvent satisfaire de manière *holistique* les attentes de tous les *acteurs de la ville* en matière d'expériences urbaines désirables.

6. CADRE PARADIGMATIQUE DE *VILLES DÉSIRABLES*

Charles Sanders Peirce (1839-1914) a jeté les bases de la sémiotique, considérant l'existence comme un réseau de signes. Il a été le pionnier du « pragmatisme », qu'il a ensuite rebaptisé « *pragmaticisme* », évaluant les théories au regard du succès de leurs applications pratiques.

Le cadre de Peirce (1933, 1960) catégorise les phénomènes en « *priméité* » (pure potentialité et qualité), « *secondéité* » (actualité et existence) et « *tiercéité* » (médiation, représentation, généralité). Dans le contexte urbain, la « *priméité* » apparaît dans les

réponses esthétiques et émotionnelles avant les processus cognitifs ; la « *secondéité* » se rapporte aux aspects physiques tangibles et aux expériences directes ; la «*tiercéité* » permet de comprendre comment les espaces urbains sont perçus, interprétés et utilisés — là où les signaux de désirabilité émergent.

Peirce a développé une analyse sémiotique complète autour du « *signe* » triadique : le « *representamen* » (qualités perçues), « l'*objet* » (ce à quoi le signe se réfère) et « l'*interprétant* » (le sens généré). *Villes Désirables* se concentre sur les signes VIII, IX et X : des termes/images urbains conventionnels produisant respectivement des *émotions*, des *actions* et des *réflexions*.

En tant que paradigme de recherche, l'intégration du *pragmaticisme* de Peirce dans les études urbaines offre une approche équilibrée intégrant la dépendance écologique, la matérialité physique et les expériences subjectives qui façonnent les environnements urbains, capturant les composantes *naturelle*, *culturelle* et *construite* ainsi que les *émotions*, *actions* et *réflexions* des acteurs.

7. CADRE DE L'ENVIRONNEMENT *NATUREL* DE *VILLES DÉSIRABLES*

La biodiversité est la pierre angulaire de la résilience des écosystèmes terrestres. Les écosystèmes naturels fournissent des fonctions de support de vie essentielles : régulation du climat, purification de l'eau, formation des sols, cycle des nutriments, soutien à la pollinisation, production alimentaire et séquestration du carbone. Les services écosystémiques urbains améliorent la qualité de vie — les parcs, les arbres de rue et les toits végétalisés offrent des avantages tangibles qui améliorent la santé publique et la qualité de l'environnement par la filtration de l'air, la régulation de la température, la gestion des eaux pluviales et le soutien à la santé mentale.

Les activités humaines entraînent le déséquilibre des écosystèmes par la destruction des habitats et le changement climatique. *Villes Désirables* plaide pour une transformation de l'expansion traditionnelle afin d'aligner la croissance sur la durabilité écologique à travers une approche globale intégrant les considérations écologiques à chaque étape de la planification. Les stratégies fondamentales incluent la préservation des espaces verts urbains, la mise en œuvre d'infrastructures vertes, la promotion de la mobilité durable et l'adoption de pratiques de construction écologiques. L'*adaptation*

basée sur les écosystèmes (AbE) tire parti des systèmes naturels pour relever les défis environnementaux, atténuer les impacts climatiques, gérer les risques d'inondation, améliorer la qualité de l'air/de l'eau et renforcer la biodiversité.

8. CADRE DE L'ENVIRONNEMENT CULTUREL DE *VILLES DÉSIRABLES*

Les humains sont des créatures orientées par la vision, un tiers du cortex cérébral étant impliqué dans le traitement visuel. La perception visuelle domine la compréhension de l'environnement, de nombreuses impressions influençant les individus de manière subconsciente, façonnant les émotions et les comportements sans prise de conscience immédiate.

Les travaux de Humberto Maturana (1992) relient les structures biologiques à la perception de l'environnement. « L'*autopoïèse* » décrit les caractéristiques d'auto-création des systèmes vivants ; le « *couplage structurel* » met l'accent sur l'interaction réciproque entre les systèmes vivants et leur environnement ; la « *biologie de l'amour* » soutient que l'amour sous-tend la cohésion essentielle à la vie sociale.

La désirabilité dans les contextes urbains intègre les composantes *naturelle*, *culturelle* et *construite* qui fusionnent en aspirations expérientielles. Les graphes de Lacan illustrent l'interaction entre les processus conscients et inconscients — le « *sujet* » navigue dans l'ordre « *symbolique* » en rencontrant « l'*Autre* » (normes culturelles, lois, langage) tandis que la dimension inconsciente régit les désirs à travers des signifiants individuels. Le « *désir mimétique* » de Girard postule que les préférences humaines sont fondamentalement imitatives, façonnées par les contextes sociaux, ce qui explique les schémas urbains comme les tendances de quartier ou les choix de statut compétitifs.

L'environnement *culturel* est l'endroit où la ville matérielle acquiert un sens humain et où la *désirabilité* est forgée. Par le « *couplage structurel* », les acteurs et l'environnement s'engagent dans une co-création mutuelle continue (*dérive urbaine*), fournissant de riches *symboles* et *expériences* qui engagent les désirs conscients et inconscients.

9. CADRE DE L'ENVIRONNEMENT CONSTRUIT DE *VILLES DÉSIRABLES*

L'environnement *construit* interagit avec les perceptions et le comportement à travers

sa forme physique, produisant des interprétations influencées par le contexte culturel et les réponses psychologiques. La morphologie d'une ville — rues, parcs, places, bâtiments — fournit la toile physique de la vie urbaine. Les espaces publics, le « *cœur* » des villes, influencent de manière significative la perception.

Villes Désirables classe les espaces publics de plein air en neuf types : sites touristiques, places publiques, grandes avenues, petites rues, espaces commerciaux de plein air, marchés éphémères, parcs métropolitains, petits jardins et promenades. Les systèmes de transport représentent des éléments *construits* essentiels — des options de mobilité variées forgent des villes durables et vivables. Les lieux d'activités sont des scènes interactives où se déroule la vie quotidienne à travers des activités sociales reflétant la fonctionnalité et les qualités symboliques.

10. CADRE DE L'APPROCHE HOLISTIQUE DE *VILLES DÉSIRABLES*

S'appuyant sur le *pragmaticisme* de Peirce, *Villes Désirables* examine comment les environnements *naturel*, *culturel* et *construit* sont perçus et interprétés. Les phénomènes urbains impliquent la sémiose à partir de l'environnement, des qualités perçues et des interprétations déclenchées.

La perception urbaine canalise activement les qualités environnementales à travers des schémas sensoriels physiques et culturels. L'analyse de Debord révèle des expériences supplantées par des représentations — « *la vie présentée comme une immense accumulation de spectacles* ». Les imaginaires urbains de Silva examinent les visions collectives que les communautés élaborent pour interpréter leur environnement.

Les *Cities' PIDs* (*Imaginaires phénoménologiques du désir de ville*) sont les imageries sensorielles et mentales, individuelles et collectives, à travers lesquelles les acteurs interprètent l'environnement urbain. Ce concept combine des perspectives sur la perception, les interprétations et les aspirations à travers les expériences, articulant les réponses des acteurs (*émotions*, *actions*, *réflexions*) avec les composantes environnementales (*naturel*, *culturel*, *construit*). Les *Cities' PIDs* abordent les processus sémiotiques urbains à travers des expériences phénoménologiques liées à des imageries *désirables* façonnées par des aspirations conscientes et inconscientes, jetant un pont entre l'environnement et l'individu.

Des villes désirables pour une vie harmonieuse

Notre cadre d'interprétation théorique complet, décrit ci-dessus, va au-delà de l'urbanisme traditionnel centré sur le matériel. La poursuite de villes véritablement désirables nécessite une approche *holistique* et *interdisciplinaire* qui rééquilibre fondamentalement les environnements *naturel*, *culturel* et *construit*. Ancré dans le *pragmaticisme* urbain, il jette un pont entre les conditions environnementales objectives et les expériences subjectives des acteurs. L'innovation réside dans la synthèse des composantes objectives avec les interprétations subjectives à travers les *Cities' PIDs*.

Ce cadre établit un nouveau prisme pour voir les villes, fournissant une base cohérente pour un urbanisme humain et écologiquement responsable. L'intégration du *pragmaticisme* de Peirce dans le réseau sémiotique des villes permet de comprendre la désirabilité urbaine, en articulant les expériences subjectives avec les environnements objectifs pour développer des villes *holistiques* qui soutiennent l'équilibre écologique de la Terre, le bien-être social et des espaces urbains florissants.

PART THREE.

DESIRABLE CITIES' THEORETICAL FRAMEWORK

11. INTRODUCTION TO *DESIRABLE CITIES'* THEORETICAL FRAMEWORK

11.1. Purpose and scope of the theoretical framework: Available knowledge for pursuing *holistic* cities' development

Desirable Cities' theoretical framework aims to articulate and synthesise the existing body of knowledge from different academic realms to better understand the relationship between people and their environment and how their expectations for desirable urban experiences play a significant role within that interaction. This framework bridges various disciplines, including philosophy, ecology, geography, biology, sociology, anthropology, ethnography, psychology, semiotics, communication, and economics, to provide a *holistic* perspective on city development. By establishing a foundation of available knowledge, the literature articulation aims to create a conceptual framework that supports the pursuit of *holistic* urban environments, where the needs and desires of city stakeholders are integrated into a paradigm for urban studies and city development processes.

The scope extends across traditional urban studies and assembles *interdisciplinary* insights. The goal is to create a comprehensive understanding that acknowledges the *natural*, *cultural*, and *constructural* dimensions of urban spaces, offering a nuanced perspective that transcends an often-reductive focus on function and form alone. Through this, the framework aims to equip city stakeholders with the theoretical resources needed to genuinely understand their expectations concerning desirable urban experiences in cohesion with a *holistic* approach that includes Earth's ecological sustainability and people's well-being.

To achieve this *holistic*, *interdisciplinary* approach, *Desirable Cities*' literature first critically articulates the related research paradigms, then addresses the articulation of *natural*, *cultural*, and *constructural* environments, and finally articulates how the proposed *holistic* approach can be achieved.

11.2. Rationale of the theoretical framework: Connecting updated multidisciplinary insights with cities' development

Cities are complex entities shaped not only by city planning, architectural designs, urban systems, and infrastructure, but also by the Earth's ecological systems and people's biological, sociological and psychological processes and forces. Traditional city developments have often overlooked these aspects of the Earth's ecosystem equilibrium and people's biological, sociological and psychological well- being, focusing primarily on the city's function and form. This framework expands the traditional paradigm by drawing on various disciplines to understand how cities can *holistically* satisfy the expectations for desirable urban experiences of all city stakeholders by addressing ecological sustainability and human well-being conditions *holistically*.

Using Peirce's *Pragmaticism* as a research paradigm to address *Desirable Cities*' *holistic* approach involves articulating various aspects: how the environment happens to be the way it is, how people emerge and interact with that environment, how society develops and modifies the environment, how urban spaces were built, how individuals emotionally interact with urban spaces and how these interactions influence their perception of desirability. This multidisciplinary approach ensures a deeper understanding of urban dynamics. Ultimately, the rationale highlights the importance of embedding ecological, social, psychological, and experiential insights into urban studies and city development.

11.3. Organisation of the theoretical framework: Thematic progression for a coherent *interdisciplinary* understanding

Desirable Cities uses a thematic progression in the literature to ensure that each framework aspect builds logically upon the previous one, creating a cumulative and integrative narrative. The articulation is divided into five (5) thematic sections: the research paradigms, the *natural* environment, the *cultural* environment, the *constructural* environment, and the *holistic* approach. These ensure a logical flow from foundational theories to practical applications relevant to the *Desirable Cities*' framework.

Desirable Cities' paradigm literature introduces Peirce, his philosophical framework, semiotic analysis methodology, reflections on desire and metaphors, and how these insights can be applied to environmental studies. It concludes with the implications of adapting Peirce's *Pragmaticism* to urban studies.

Desirable Cities' *natural* environment literature explains Earth's balanced ecosystem and significance for people's lives, demonstrating its importance in developing cities worldwide.

Desirable Cities' *cultural* environment literature focuses on how human life evolves from its original *natural* conditions, including perceptions, to the *cultural* dimension in which desirability emerges. It explores human cognition and perception of the environment. People's Perception and Desirability further expand on how individuals perceive and form desires for urban environments.

Desirable Cities' *constructural* environment literature focuses on cities' morphologies, briefly exploring the physical characteristics of urban public spaces and their importance in shaping people's perceptions.

Desirable Cities' *holistic* approach delves into how urban spaces are perceived, interpreted, and conceptualised as experiences and imaginaries, among other concepts.

11.4. Desirable Cities' theoretical framework statement: Advocating for *interdisciplinary* and *holistic* approaches in urban studies and city development

The essence of cities transcends the mere construction of physical spaces, embodying a multifaceted quest for sustainable, liveable, and desirable spaces and experiences; thus, *Desirable Cities* suggests that a *holistic* approach is crucial for urban studies and city development. *Desirable Cities* argues that *interdisciplinary* insights enrich the understanding of people's relationship with urban spaces and empower them to *holistically* satisfy their needs and desires. By weaving together theories and methodologies across these complementary fields, this framework aims to promote functionally efficient urban environments that are ecologically sustainable, socially inclusive, aesthetically appealing, and emotionally resonant.

12. *DESIRABLE CITIES*' PARADIGM FRAMEWORK

12.1. Introduction to Peirce

Charles Sanders Peirce (1839–1914) was an American philosopher, logician, mathematician, scientist, and many more proficiencies that made him truly a Polymath (McNabb 2018, 13). Peirce's work laid the groundwork for semiotics almost simultaneously with Saussure's founding of Semiology (Saussure 1945, 25–28), without any known interactions between them. For Peirce, semiotics is the study of The Universe, as he sees existence as a network of signs (Peirce 1960c, 227–29). Peirce is also celebrated as a pioneer of "*Pragmatism*", which he later changed the name to "*Pragmaticism*", as he wanted to break through from other *Pragmatism* ideas of his time (Peirce 1960e, 482; 1933, 533–38), a philosophical tradition that evaluates theories and beliefs regarding the success of their practical applications. His intellectual legacy spans a broad spectrum of disciplines, illustrating a profound commitment to *interdisciplinary* inquiry (Peirce 1960a, vii).

Peirce's contributions to philosophy and semiotics have been instrumental in shaping the discourse within and beyond these fields (Beuchot 2014; McNabb 2018; Menand 2001). His conceptualisation of the sign's network, or "semeiotic," as he referred to it, underscores the triadic relationship between The Universe at large ("*object*"), the perceived qualities of the *object* ("*representamen*"), and people's interpretations of it ("*interpretant*") (Peirce 1960c, 227–73). This framework has revolutionised the understanding of how meaning is constructed and conveyed and provided a robust analytical tool for exploring the dynamics of communication and representation across various contexts.

Moreover, Peirce's *Pragmaticism* introduced a method of clarifying concepts and ideas by considering their practical effects and applications. This approach has had a lasting impact on philosophical methodology, offering a bridge between the analytic and continental traditions (McNabb 2018, 14), and fostering a more inclusive application-oriented exploration of philosophical questions (Menand 2001).

The relevance of Peirce's work extends beyond the confines of academic philosophy and semiotics. Scholars such as Deborah Eicher-Catt and Goran Sonesson have highlighted how Peirce's ideas illuminate the complex interplay between signs, meaning, and communication in contemporary social and cultural contexts (Eicher-Catt 2004; Eicher-Catt and Catt 2013; Sonesson 2019). Similarly, a significant number of scholars have applied Peirce's semiotics to cultural studies, such as: art history, films, gestures, media information, mysticism, politics, photography, psychology, sound, tourism,

unconscious and conscious cognition, which are experienced within the environment, underscoring Peirce's utility in analysing the relationship between people and their spatial environments (Antomarini 2018; Brier 2008; Ehrat, Sj 2004; Elkins 2003; Emmeche 1991; Farias and Queiroz 2006; 2014; Jamasbi and Ghazvineh 2023; Knudsen et al. 2016; Lefebvre 2007a; 2007b; 2022; Murray 2016; Nesher 1990; Nöth and Jungk 2015; Pietarinen 2012; Pietarinen and Stjernfelt 2015; Procter 2016; Queiroz and El-Hani 2007; Rampazzo 2013; Robins 2014; Semetsky 2009; Talisse 2004; Tochon and Ökten 2010; Vitral and Queiroz 2021).

Therefore, *Desirable Cities* proposes that in the realm of urban studies and city development, the application of Peirce's semiotic principles offers a nuanced lens for examining the city's complex layers and multifaceted public spaces. This goes beyond analysing sign networks and advocates for their integration into broader ecological, philosophical, and humanistic inquiries (Beuchot 2014; McNabb 2018), for enriching the understanding of urban spaces and the complex networks of signs and meanings that define and characterise them.

12.2. Peirce's philosophical framework

Peirce's philosophical framework is underpinned by his proposed categorisation of phenomena and existence into three broad categories: "*firstness*", "*secondness*", and "*thirdness*". These categories are crucial for understanding not only The Universe at large but also the nuanced dynamics of urban environments (Peirce 1960b, 300–353).

"*Firstness*" represents the mode of being that is such as it is, positively and without reference to anything else. It is the category of pure potentiality and quality, characterised by spontaneity and possibility. From a phenomenological angle within the urban context, "*firstness*" can be observed in the aesthetic and emotional responses an environment evokes in individuals before any cognitive or analytical process occurs. Peirce describes "*firstness*" as "*is predominant, not necessarily on account of the abstractness of that idea, but on account of its self-containedness. It is not in being separated from qualities that Firstness is more predominant, but in being something peculiar and idiosyncratic*" (Peirce 1960b, 302); in other words, the possibility of pure perceived quality, or feeling, by experiencing something without analysing or understanding its relation to other things.

"*Secondness*" is the category of actuality and existence, defined by the direct and immediate experiences of resistance or opposition between two entities. "*The idea of*

Secondness is predominant in the ideas of causation and of statical force. For cause and effect are two, and statical forces always occur between pairs". The pair that Peirce is referring to here is "*action and perception*", and how he exemplified it as "*when you put your shoulder against a door and try to force it open. You have a sense of resistance and at the same time a sense of effort: there can be no effort without resistance*", in other words: there cannot be perceptions without matter, and the reasons why humans associated these two is because "*we are continually bumping up against hard fact*" (Peirce 1960b, 324). It represents the brute realities encountered through interaction with the world (the environment of life). This is crucial to understand in terms of urban studies, as phenomenologically, "*secondness*" is related to the physical and tangible aspects of cities (the streets, buildings, and public spaces) and the direct experiences and interactions they facilitate; in short, actions.

"*Thirdness*" introduces the concepts of mediation, representation, and generality. It enables the understanding of laws, habits, and continuities, allowing for the interpretation of processes, growth, and evolving thoughts. "*Thirdness*" is fundamental for grasping the principles governing relationships and interactions within any system.

> "*We perceive objects brought before us, but that which we especially experience, the kind of thing to which the world 'experience' is more particularly applied, is an event. We cannot accurately be said to perceive events, for this requires what Kant called the 'synthesis of apprehension'*" (Peirce 1960b, 336).

Peirce exemplified this differentiation between the perceptions of experiences and events with a train (an experience that must be remarkably new at Peirce's time):

> "*A whistling locomotive passes at high speed close beside me. As it passes the note of the whistle is suddenly lowered from a well-understood cause. I perceived the whistle, if you will. I have, at any rate, a sensation of it. But I cannot be said to have a sensation of the change of the note. I have a sensation of the lower note. But the cognition of the change is of a more intellectual kind. That I experience rather than perceive*" (Peirce 1960b, 336).

What Peirce is explaining with this is that people's perceptions ("*representamen*") are not absolute perceptions of everything that there is ("*object*"), but instead are the perception of specific events at specific circumstances. These perceptions are memorised, developing a deeper understanding. Consequently, these accumulations of "*changes and contrasts of perceptions"* forms people's concept of *"experience"* and thus "*the concept of experience is broader than that of perceptions, and includes much that is not, strictly speaking, an object of perception*". Peirce emphasises the interpretative character of humans, noting that "*It is the compulsion, the absolute constrain upon us to think otherwise than we have been thinking that constitutes experience*" (Peirce 1960b, 336), or what Peirce describes in short as "*The quality of what we are immediately conscious of, which is no fiction, is Firstness*", therefore linked to "*Secondness*". "*But we constantly predict what is to be"* (Peirce 1960b, 343). This category allows for comprehending everything that exists, connecting to how urban spaces are perceived, interpreted and utilised by individuals and communities, within the context of cultural, social, and economic factors at play. It is precisely where the signals of desirability can be found.

The concept of infinite semiosis and "*synechism*", or the "*continuity*" of thought and reality, plays a significant role in Peirce's philosophy. "*Synechism*" suggests that meanings and interpretations are not static but evolve through an unending process of semiosis, a continuous interpretation and re-interpretation of signs, that "*grows*" over time (Peirce 1960b, 161–75). Applied to urban environments, this concept highlights the dynamic and ever-changing nature of urban spaces, where meanings, functions, and uses continuously evolve based on the interactions and interpretations of city stakeholders.

To discern the mental process of "*growth*" in relationship with "*habits*" and "*spontaneity*", Peirce uses the terms "*Tychism"*, "*Anancism*" and "*Agapism*" to address "*evolution by fortuitous variation, evolution by mechanical necessity, and evolution by creative love*", respectively (Peirce 1960e, 296–305). These concepts introduce unpredictability and creative evolution into human development, which will again be necessary for urban spaces' creations and behaviours. Thus, these concepts can be applied to understand how cities are not just planned and structured entities but also evolving ecosystems through spontaneous and creative processes, which is a powerful link to people's desirability.

12.3. Peirce's semiotic analysis

Peirce developed a comprehensive semiotic analysis that centres around the triadic nature of the "*sign*", which consists of the "*representamen*" (the perceived qualities of the sign), the "*object*" (what the sign's referent is), and the "*interpretant*" (the meaning that the sign generated in the mind of the interpreter). Peirce argued that this triadic relationship of the sign is the simplest and most complete way to understand phenomena (Peirce 1960c, 227). As he articulated:

> *"A sign, or representamen, is something which stands to somebody for something in some respect or capacity. It addresses somebody, that is, creates in the mind of that person an equivalent sign, or perhaps a more developed sign. That sign which it creates I call the interpretant of the first sign. The sign stands for something, its object. It stands for that object, not in all respects, but in reference to a sort of idea, which I have sometimes called the ground of the representamen."* (Peirce 1960c, 228).

Peirce outlines three branches of the science of semiotics, rooted in the triadic nature of the *representamen*, which connects to three elements: the "*ground*", the "*object*", and the "*interpretant*". Each branch addresses a distinct aspect of semiotic analysis:

"*Pure Grammar*" ("*Speculative Grammar*"): This branch, inspired by Duns Scotus, concerns the properties that signs must possess to convey any meaning at all. It deals with the essential characteristics that make something a sign, independent of its actual content or truth value (Peirce 1960c, 229).

"*Logic Proper*": Peirce defines this as the formal science of the conditions under which representations may be considered accurate. This branch focuses on the validity and logical structure of signs as they relate to their objects (Peirce 1960c, 229).

"*Pure Rhetoric*": In line with Kantian terminology, this field studies how signs lead to other signs within a scientific intelligence, mainly focusing on the generative process of thought and communication from one sign to another (Peirce 1960c, 229). Therefore, a "*sign*" can be anything from a perceptible "*object*" to an unimaginable concept, varying greatly in its nature. Notably, a "*sign*" must represent something other than itself, named its "*object*". This representation can sometimes necessitate the "*sign*" being part of another "*sign*", a chain of signs, illustrating the recursive nature of semiotics (Peirce 1960c, 230). In addition to that, an "*object*" can be anything, from a concrete entity to

an abstract concept. Peirce's theory facilitates the integration of physical phenomena, encompassing all the matter within the environment, including the tangible materiality of cities. It also encompasses the psychical phenomena, which refers to people's ideas and emotions triggered by or directed toward the environment. This allows the integration of analytical and continental philosophy into a single paradigm and scientific methodology, which are phenomena that academic paradigms sometimes separate, but in reality, are always connected. On the other hand, the "*interpretant*" is the understanding or meaning derived from the "*sign*" by an interpreter. Peirce clarifies that this triadic relationship is dynamic and ongoing, emphasising the idea of infinite semiosis, where the interpretation of a "*sign*" leads to new "*signs*" and further interpretations (Peirce 1960c, 231).

This rationale led Peirce to elaborate on top of the triadic relationships that form the basis of his semiotic theory, three phenomenological instances of that relationship, defined by Peirce as "*first*", "*second*", and "*third*" "*correlates*". These three correlations can be understood as the nature of the "*representamen*" itself ("*first correlate*"), the relationship of the "*representamen*" and the "*object*" it represents ("*second correlate*"), and the "*representamen*" in entire relationship with its "*object*" and the "*interpretant*" that results from it ("*third correlate*"). However, in each of these three phenomenological correlations, Peirce also evaluates its internal ontology in terms of potentiality (mere possibility or "*firstness*"), actuality (existent fact or "*secondness*"), and law (general rule or "*thirdness*"). These resulted in a double semiotic analysis that Peirce titled: "*first*", "*second*", and "*third*" "*Trichotomy of Signs*" (Peirce 1960c, 233– 53).

The "*first trichotomy of signs*", in the phenomenological perception and nature of the "*representamen*" itself, is ontologically organised by Peirce as follows (Peirce 1960c, 243). "*Qualisign*": A quality that has the potential to be a "*sign*". It is a "*possibility*" without actual existence as a representamen until it is instantiated (Peirce 1960c, 244). "*Sinsign*": An actual existent thing or event that "*acts*" as a "*representamen*". It refers to the instances where the "*representamen*" is embodied in material form (Peirce 1960c, 245). "*Legisign*": A "*law*" that is a "*representamen*". It represents a convention or a general rule that governs the perception of "*representamen*" (Peirce 1960c, 246).

The "*second trichotomy of signs*", in its phenomenological relation of the "*representamen*" and its referring "*object*", and its ontological states is organised as follows (Peirce 1960c, 247). "*Icon*": a relationship in which the "*representamen*" is linked by "*resemblance*" or similarity to its "*object*". (Peirce 1960c, 247). "*Index*": a relationship in which the "representamen" is physically or causally connected to its "*object*" and

"*indicates*" the presence of what they denote (Peirce 1960c, 248). "*Symbol*": a relationship, in which the "*representamen*" is related to its "*object*" by "*law*" or convention, such as language (Peirce 1960c, 249).

The "*third trichotomy of signs*", in the phenomenological triadic relationship between "*representamen*", its "*object*" and its "*interpretant*", and in its ontological dimension again, is structured as follows (Peirce 1960c, 250). "*Rhema*": a triadic relationship in which the "*representamen*" represents its "*object*" in respect of "*quality*" and thus, aiming to a "*possibility*" in terms of its "*interpretant*", in other words, an emotion that can lead to potential possibilities of actions or interpretations (Peirce 1960c, 250). "*Dicisign*": a triadic relationship in which the "*representamen*" represents its "*object*" in respect of actual existence or a "*factual*" relation with the "*interpretant*", generating actions (Peirce 1960c, 251). "*Argument*": a triadic relationship in which the "*representamen*" represents its "*object*" regarding "*law*" or habit from the "*interpretant*" point of view, or idea (Peirce 1960c, 252).

Table 04
Peirce's possibilities of signs

Phenomenological process of experiencing signs >>>

		Representamen First Correlates	***Representamen-Object Second Correlates***	***Representamen-Object-Interpretant Third Correlates***
Ontologically >>>	***Firstness***	Qualisign	Icon	Rhema
	Secondness	Sinsign	Index	Dicisign
	Thirdness	Legisign	Symbol	Argument

The previous table shows Peirce's consistent application of his paradigms in the semiotic analysis of signs' perceptions and possibilities. See *Table 04: Peirce's possibilities of signs*. And *Image 105* shows Pierce's logic to articulate the ontological conditions of "*firstness*", "*secondness*" and "*thirdness*" with the epistemological experiences of the "*first correlates"*, "*second correlates"* and "*third correlates"*. See *Image 105*: *Peirce's ten signs articulation*.



Image 105. *Peirce's ten signs articulation.*

Table 05
Peirce's ten signs

	First Correlate	*Second Correlate*	*Third Correlate*
I. One	Possibility	Possibility	Possibility
II. Two	Existent	Possibility	Possibility
III. Three	Existent	Existent	Possibility
IV. Four	Existent	Existent	Existent
V. Five	Law	Possibility	Possibility
VI. Six	Law	Existent	Possibility
VII. Seven	Law	Existent	Existent
VIII. Eight	Law	Law	Possibility
IX. Nine	Law	Law	Existent

At this point, it is essential to understand that Peirce's structural logic has a fundamental law; there can be "*firstness*" without "*secondness*" or "*thirdness*", but there cannot be "*secondness*" without "*firstness*", nor "*thirdness*", without "*firstness*" and "*secondness*". This rule applies to both the ontological dimension and phenomenological experience. Therefore, Peirce arrived at a final complex classification of ten (10) "*Signs*", providing a final systematic framework for analysing all sorts of possible semiotic interactions. (Peirce 1960c, 254) Aligning ontology with phenomenological experiences (epistemology) and semiotic analysis (methodology), in one paradigm that addresses the impact of "*signs*" in any context, including cities. See *Table 05: Peirce's ten signs*.

Peirce's remarkable category of signs can even explain hypothetical cases of semiotic interaction; for example, Sign I could address what would be the first sensation that a just-born baby would feel at the first encounter of light in their eyes or air on their skin. However, for *Desirable Cities* the focus will be on the last three signs: "*VIII*", "*IX*", and "*X*", as these three signs include recognisable perceptions ("*Legisign*") within its three ontological possibilities, together with a recognisable object ("*Symbols*"), also in its three ontological possibilities, articulated with the three distinctive interpretations ("*Rhema*", "*Dicisign*" and "*Argument*"):

Sign "*Eighth*", *Legisign-**Symbol-Rhema*** or "*Rhematic Symbol*", "*is a sign connected with its Object by association of general ideas in such a way that its Replica calls up an image in the mind, which, owing to certain habit or dispositions of that mind, tends to produce a general concept*", in other words, a conventional term that suggests a concept (e.g., a "*common noun*"). As any given symbol, it convenes a general type or *Legisign*, as "*the image it suggests to the mind acts upon a Symbol already in that mind to give rise to a General Concept*". Therefore, "the *demonstrative pronoun 'that' is a Legisign, being a general type; but it is not a Symbol since it does not signify a general concept*". For

example, "*camel*", as it is "*really affected, through the knowledge of camels, common to the speaker and auditor, by the real camel it denotes, even if this one is not individually known to the auditor*", which means that there is a social convention attached to it "*and it is through such a real connection that the word 'camel' calls up the idea of a camel*". But this can be applied to abstract concepts too, for example "*Phoenix*" as "*although no phoenix really exist, real descriptions of the phoenix are well known to the speaker and his auditor; and thus, the word is really affected by the Object denoted*". But this Rhematic Symbols can also trigger feelings, for example "*the ring of a telephone-bell is affected by the person at the other end who wants to make a communication*", and by doing so, it is also affecting the auditor of that recognisable ring-bell (Peirce 1960c, 261). Therefore, *Desirable Cities* will identify signs "VIII" as conventional urban nouns or images that produce ***emotions***.

Sign "*Ninth*", *Legisign-**Symbol-Dicisign***, "*Dicent Symbol, or ordinary Proposition*", it is "*a sign connected to its object by association of general ideas, acting like Rhematic Symbol, except that its intended interpretant represents the Direct Symbol as being*". In other words, a proposition that states something about reality because "*what it signifies, really affected by its Object, so that existence or law which it calls to mind must be actually connected with the indicated Object*" (e.g., the yellow light of the traffic light). "*Thus, the intended Interpretant, looks upon the Dicent Symbol as a Dicent Indexical Legisign; and if it be true, it does partake of this nature, although this does not represent its whole nature. …its Syntax of these is significant*" (Peirce 1960c, 262). Therefore, this proposition can be either true or false, or partially true, as well as it can cause actions: for example, the yellow light of a traffic light can produce an action linked to its cultural interpretation (symbolic), as in some urban cultures, people might rush to cross before the light turns red, whether in others, people might start to stop waiting for red to appear, meaning that this actions-propositions can also be evaluated, as right or wrong, or partially understandable, in correlation with its symbolic convention. Therefore, Desirable Cities will identify signs "IX" as conventional urban propositions or images that produce ***actions***.

Sign "*Tenth*", *Legisign-**Symbol-Argument***, or "*Argument*", it is "*a sign whose interpretant represents its object as being an ulterior sign through a law, namely, the law that the passage from all such premisses to such conclusions tends to be true*" (Peirce 1960c, 263). This makes it more like a philosophical concept, leading to teleological growth. However, as terms can be articulated into propositions, propositions can be articulated into arguments to approach knowledge and growth in teleological understanding,

pushing human development forward. An example of this is that the majority of the population on planet Earth live within cities. Cities are the infrastructure and systems created for people to live. People's lives are based not only on their physiological needs but also on their psychological desires. Therefore, cities should be designed and built with consideration for their people's expectations of desirable urban experiences. This logic could contribute to people living in *desirable* cities, where their well-being can thrive physiologically. *Desirable Cities* will identify signs "X" as conventional urban propositions or images that produce ***reflections***.

By employing Peirce's semiotic analytical methodology, urban studies can identify, organise and understand the relationships of people's *emotions*, *actions* and *reflections* triggered by the environment (whether it is *natural*, *cultural* or/and *constructural*), with the genuine aim of contributing to improving the urban well-being of people by understanding better their expectations towards desirable urban experiences.

12.4. Peirce's reflections on desire

As mentioned above, when a "*sign*" stands for an "*object*", "*in reference to a sort of idea*", which Peirce called "*ground*", the interpretations gravitate around the desires. Peirce explains that "*It is a familiar experience to every human being to wish for something quite beyond his present means*", in its relationship with the "*abstractive observation*", that "*He* (people) *makes in his imagination a sort of skeleton diagram, or outline sketch, of himself, considers what modifications the hypothetical state of things would require to be made in the picture*", adding to the explanation that "*to see whether the same ardent desire, is there to be discerned*" (Peirce 1960c, 227–28), in other words, an interpretation based on existing understandings, in its diachronic sense:

> "'*Idea' is here to be understood in a sort of Platonic sense, very familiar in everyday talk; I mean in that sense in which we say that one man catches another man's idea, in which we say that when a man recalls what he was thinking of at some previous time, he recalls the same idea, and in which when a man continues to think anything, say for a tenth of a second, in so far as the thought continues to agree with itself during that time, that is to have* ***a like content****, it is the same idea, and is not at each instant of the interval a new idea*." (Peirce 1960c, 228).

Peirce asserts that inquiry is motivated by a fundamental desire to resolve feelings of doubt and anxiety, which he characterises as an uneasy and dissatisfied state that individuals strive to overcome through the establishment of beliefs (Howard 2005). The concept of desire is notably complex and encompasses a broad spectrum of human experiences, ranging from basic physical cravings to more abstract aspirations. Peirce's interpretation situates desire as an active force that propels individuals toward knowledge and understanding, framing the transition from doubt to belief as a crucial aspect of this dynamic (Stephens 1981). Peirce's perspective not only shapes theories of knowledge and belief formation but also opens avenues for examining the ethical dimensions of desire concerning societal norms and communal principles (Howard 2005; Rochberg-Halton and McMurtrey 1983).

This highlights the importance of understanding how human motivations are intertwined with cognitive processes, establishing a rich field of inquiry that continues to evolve within philosophical and psychological landscapes. Peirce also emphasised the dialogical nature of signs, where the meaning is constructed through an interaction between the sign and the interpreter within a context or a community. This dialogism is complemented by his doctrine of critical "*common-sensism*", which advocates for grounding theoretical insights in everyday practical experiences (Peirce 1960d, 497–501). In urban settings, this translates to understanding how the community uses and perceives city spaces, thus aligning urban design with the lived experiences of its city stakeholders from their desire to have a common understanding, leading to a conventional interpretation in terms of *emotions*, *actions* and *reflections*.

12.5. Peirce's reflections on metaphors

> *"No thought in itself, then, no feeling in itself, contains any others, but is absolutely simple and unanalyzable; and to say that it is composed of other thoughts and feelings, is like saying that a movement upon a straight line is composed of the two movements of which it is the resultant; that is to say, it is a metaphor, or fiction, parallel to the truth."* (Peirce 1960d, 289).

Peirce's remarks on metaphor suggest he viewed it as fundamental to consciousness and thought (Peirce 1960f, 554; Sørensen et al. 2007; Sørensen 2008). For Peirce, metaphor is rooted in abduction, a semiotic mechanism that conveys new insights

(Sørensen et al. 2007; Sørensen 2008). Peirce's concept of metaphor as parallelism connects it to concept formation and scientific progress (Sørensen and Thellefsen 2006). Metaphor is considered a type of icon and part of an interpretive route (Ponzio 2006). Peirce's philosophy employs metaphoric representations of complex ideas (Feodorov 2018). Some scholars argue for similarities between Peirce's and Aristotle's views on metaphor as a cognitive mechanism (Sørensen et al. 2020). Peirce's theory of iconicity and iconic reasoning provides a foundation for a new epistemology of metaphor (Jiang 2018). His later work on semiosis and typology further developed the concept of "*hypoicons*", including metaphor (Jappy 2018; Peirce 1960c, 277).

This is crucial because, for Peirce, metaphors are key in communication. Peirce says that if a new language has to be created, it needs prepositions (1) "*to express the temporal relations of before, after, and at the same time with", (2) "to express the spatial relations of adjoining, containing, touching, of in range with, of near to, far from, of to the right of, to the left of, above, below, before, behind*", (3) "*to express motions into and out of these situations*", and here is the catch (4) "*For the rest, I can manage with metaphors*" (Peirce 1960c, 290). Thus, metaphors will play a paramount role in facilitating the communication of people's expectations for desirable urban experiences. People's metaphors of expectation will unveil the referential source of their desires, which will be explained in greater detail in *Desirable Cities*' analysis of Lacan's graph of desire.

12.6. Applications of Peirce's methodologies in environmental studies

Among many studies, Murray demonstrates how Peirce's semiotic framework enriches the analysis of audio-visual media by focusing on how sound functions as a set of "*icons*", "*indexes*", and "*symbols*" that guide viewers' emotional and cognitive responses. This emphasis on the evolution of sound over time highlights its narrative power (Murray 2016). Similarly, Rampazzo applies Peirce's concept of "*abduction*" within the design environment to explore how perception underpins creativity. By showing that abductive inferences are not merely instinctual but require perceptual and cognitive elaboration, Rampazzo highlights design's communicative capacity through form, function, and colour (Rampazzo 2013). Robins extends Peirce's semiotics to contemporary art history and criticism, mainly through analysing photography's indexical nature, showing how Peirce's triadic sign division helps connect the artist's intention, material processes of art-making, and the viewer's interpretation. Collectively, these studies illustrate how Peirce's theories illuminate different *cultural* and creative environments, from film sound design

to the processes of art and product design (Robins 2014).

Nöth and Jungk focus on visual semiotics to demonstrate how Peirce's sign classifications can be adapted to both technology-driven and traditional visual media. They argue that his elaborate sign system (Nöth and Jungk 2015), particularly when further developed by scholars such as Tony Jappy, fosters a deeper understanding of *cultural* images (Jappy 2013). In a related line, Pietarinen underscores the significance of Peirce's division of signs into images, diagrams, and metaphors for analysing broader *cultural* phenomena. He details how Peirce's commitment to diagrammatic reasoning, viewing visual diagrams as the natural language of logical relations, offers a systematic approach to interpreting the structures of thought embedded in *cultural* signs. This approach underlines how culturally situated symbols, whether in artwork or media communication, can be dissected through Peirce's emphasis on the interplay between the "*sign*", its "*object*", and its "*interpretant*" (Pietarinen 2012).

Pietarinen and Stjernfelt build on these ideas by detailing Peirce's innovative view of logical arguments as dialogues between concepts, a method they find equally applicable to the complexities of cultural analysis. Their work elaborates on how diagrammatic reasoning offers a form of visual thinking that explains the evolution and interaction of cultural ideas. (Pietarinen and Stjernfelt 2015). Tochon and Ökten adapt Peirce's triadic sign structure to teacher education through curriculum mapping. They reveal how students and teachers interpret, restructure, and transform curriculum content, thus underlining the dynamic influence of semiotic processes in shaping educational environments. By applying Peirce's *sign-object-interpretant* triad, they highlight how teaching is mediated by interpretive acts that inform instructors' evolving perceptions of their roles and subject matter (Tochon and Ökten 2010).

Turning to interpersonal interaction and biological contexts, Vitral and Queiroz demonstrate how gestures in face-to-face communication can function as diagrams, not just simple movements but structured signs that mirror and enact certain judgments or assessments. This expansion of Peirce's model emphasises the capacity of nonverbal cues to shape communicative environments (Vitral and Queiroz 2021). Queiroz and El-Hani apply Peirce's triadic sign relation to biological systems by interpreting mimicry and warning signals as semiotic processes. In doing so, they highlight how living organisms produce, communicate, and interpret signs in ways that parallel Peirce's logic, whether in the camouflage of thorn bugs, the symptomology of diseases, or the alarm calls of vervet monkeys. Their work underscores the breadth of Peirce's framework, showing its

adaptability beyond human culture to encompass broader environmental and evolutionary contexts (Queiroz and El-Hani 2007).

By applying Peirce's *Pragmaticism*, the *Desirable Cities*' paradigm accurately values the tangible and intangible aspects of urban environments in a *holistic* conceptualisation This approach not only bridges the gap between abstract semiotic theory and practical urban studies but also reinforces the *interdisciplinary* aim of *Desirable Cities*, which seeks to integrate *ecological*, *social*, and *material* dimensions of city life into a *holistic* model that considers people's *emotions*, *actions*, and *reflections* triggered by the *natural*, *cultural* and *constructural* environment.

12.7. Semiotic methods and tools inspired by Peirce's work

Many studies have applied Peirce's semiotics to environmental issues, emphasising the need for empirical inquiry and the role of human-environment interactions (Barry 2021; Norros 2018; Alton and Rosenquist 2011; De Pascale and Dattilo 2021). This approach has been used to analyse the effectiveness of environmental websites in conveying their intended messages (Alton and Rosenquist 2011), and to reconceptualise the human-environment relationship in the Anthropocene era (De Pascale and Dattilo 2021). In archaeology, Peirce's ideas have been applied to materiality and palaeolithic archaeology (Baron 2021). Peirce's theories of visual rhetoric have also been proposed to improve visual communication, including in the context of PowerPoint presentations (Manning and Amare 2005).

These studies share Peirce's semiotic structure, focusing on methodological similarities and employing contextual analysis, as well as *interdisciplinary* approaches. Barry, Norros, Alton, Rosenquist, de Pascale, Dattilo, and Baron, all employed Peirce's semiotics to analyse various phenomena. For instance, Barry uses Peirce's concept of abduction to understand environmental problems (Barry 2021), while Pascale uses Peirce's triangle to parse the human-planet relationship (De Pascale and Dattilo 2021). Alton and Rosenquist applied Peirce's semiotics to evaluate the effectiveness of environmental websites, focusing on the alignment of design and message (Alton and Rosenquist 2011). Baron discusses the application of Peirce's semiotics in archaeological theory, emphasising the triadic relationship of signs (Baron 2021).

As for contextual analysis focus, Barry emphasises the importance of understanding environmental problems within their specific political and material contexts

(Barry 2021). Norros proposes an activity analysis method that contextualises actions within the concept of core tasks, allowing for a semiotic analysis of habitual ways of acting (Norros 2018). De Pascale and Dattilo use the triangle heuristic to investigate the *Anthropocene*, considering the broader context of "*geoethics*" and societal impact (De Pascale and Dattilo 2021), while for the *interdisciplinary* approaches, Barry integrates insights from actor-network theory, Foucault's problematisation, and Peirce's abduction (Barry 2021). Norros combines cultural-historical activity theory, Peirce's sign theory, and "*ecofunctionalism*" to address modern work challenges (Norros 2018). Baron merges Peirce's semiotics with archaeological theory to explore materiality and human evolution (Baron 2021).

On the other hand, the methodological differences lie in the research scope and applications, analytical focus, and theoretical integrations. For the scope and application of this research, Barry focuses on environmental problems and their political and material dimensions, critiquing the limitations of actor-network theory's empiricism (Barry 2021). Norros is concerned with modern work environments, proposing a method to analyse actions and systems usability (Norros 2018). Alton and Rosenquist specifically examine the design and message alignment of environmental websites using Peirce's semiotics (Alton and Rosenquist 2011). De Pascale and Dattilo aim to reconcile "*geoethics*" with Peirce's semiotics to develop a new ethical framework for the Anthropocene (De Pascale and Dattilo 2021). Baron reviews the application of Peirce's ideas in archaeology, focusing on materiality and palaeolithic archaeology (Baron 2021).

For Analytical Focus, Barry critiques the empiricist approach of actor-network theory and emphasises the need for a broader understanding of environmental problems (Barry 2021). Norros operationalises the object of activity via the concept of core tasks, enabling a semiotic analysis of work actions (Norros 2018). Alton and Rosenquist evaluate the effectiveness of environmental websites by analysing the alignment of visual design and message (Alton and Rosenquist 2011). De Pascale and Dattilo use Peirce's triadic rationale to explore the relationship between human beings and the environment, focusing on ethical implications (De Pascale and Dattilo 2021). And Baron discusses the utility of Peirce's semiotics in archaeological interpretation, contrasting it with Saussure's semiology (Baron 2021). As for the theoretical integration, the differences are manifested in how Barry integrates actor- network theory, Foucault's problematisation, and Peirce's abduction to critique and expand the understanding of environmental problems (Barry 2021). Norros combines cultural-historical activity theory, Peirce's sign theory, and "*ecofunctionalism*" to address the challenges of modern work (Norros 2018). De

Pascale and Dattilo merge "*geoethics*" with Peirce's semiotics to propose a new ethical framework for the *Anthropocene* (De Pascale and Dattilo 2021). Baron synthesises Peirce's semiotics with archaeological theory to offer new insights into materiality and human evolution (Baron 2021).

Finally, some of these academic works also created their research and analysis tools. Alton and Rosenquist employ a model of visual form and visual purpose connections, based on Peirce's semiotics, to assess the effectiveness of environmental websites. This model assesses the alignment of design themes with intended messages, creating a tool for analysing the visual rhetoric of environmental communication (Alton and Rosenquist 2011). And de Pascale and Dattilo introduce the triangle heuristic, employing the vertices "*Geoethics–Illness*" of the "*Earth– Society*" as a metaphor for the Anthropocene era. This tool helps investigate the relationship between human beings and the environment through the lens of Peirce's semiotics, aiming to develop a new ethical framework guiding human behaviour towards the environment.

12.8. Contemporary critiques and adapted developments of Peirce's work

Many authors have explored the significance of Peirce's work in various fields. For example, Cobley and Sheriff discuss the impact of Peirce's semiotic theory on literary criticism and contemporary semiotics, respectively (Cobley 2021; Sheriff 2014). Sheriff and Sowa highlight the potential of Peirce's *Pragmaticism* in literary semiotics analysis and its application in cognitive science (Sheriff 2014; Sowa 2006). Parker and Samuels provide comprehensive overviews of Peirce's philosophy, emphasising the role of continuity and the tragedy and promise of his life and work (Parker 1998; Samuels 2000). Semetsky, Olteanu and Clarke, further explore the application of Peirce's semiotics in tarot, education and tourism, respectively (Clarke 2015; Olteanu 2016; Semetsky 2013; 2016). These studies underscore Peirce's work's enduring relevance and potential in various disciplines.

Clarke criticises the application of Peirce's theory of signs in the context of tourism, suggesting that some authors fail to fully comprehend Peirce's notion of habit and its embodiment fully. Clarke argues that these authors were unable to specify Peirce's theory of signs and suggests that a new theory of signification is not needed, but rather a better understanding and application of Peirce's existing framework (Clarke 2015). Sheriff endorses Peirce's triadic theory of signs to overcome the limitations of Saussure-based theories of meaning. Sheriff argues that Peirce's theory offers new and coherent

answers to questions relevant to the meaning of texts, which can be extended to urban phenomena where signs and meanings are constantly interpreted and reinterpreted (Sheriff 2014).

Sowa highlights the potential of Peirce's research to revolutionise the study of meaning in cognitive science, including fields like linguistics and artificial intelligence, which can be applied to understanding urban phenomena through the lens of semiotics (Sowa 2006). Parker emphasises the unity and systematic nature of Peirce's philosophical system, particularly his concept of continuity, which can be applied to understanding the interconnectedness of urban systems and processes (Parker 1998).

These perspectives suggest that, while there are criticisms regarding the application and understanding of Peirce's theories, his work also offers valuable insights and frameworks for understanding contemporary urban phenomena.

12.9. Urban *Pragmaticism*: Conclusion for the *Desirable Cities'* paradigm

As a research paradigm, incorporating Peirce's *Pragmaticism* within the studies of cities offers a balanced approach that integrates the ecological dependency on Earth, the physical materiality of cities, and the subjective human experiences that shape urban environments. Peirce's *Pragmaticism* is positioned at the intersection of Analytical and Continental philosophy, or in other words, between the Positivist and Interpretivist paradigms. It provides a *holistic* framework for understanding cities as complex entities formed by their tangible elements and their intangible perceptions, triggering *emotions*, *actions*, and *reflections* among city stakeholders.

Applying Peirce's semiotic framework in urban studies allows researchers to decode the complex layers of urban environments, understanding the physical structures of cities and the experiences and expectations that these spaces evoke. This approach is vital in unravelling the intricate dynamics of urban life, where spaces are not merely inhabited but are experienced and continuously reinterpreted by their city stakeholders.

Desirable Cities aims to capture the urban environment's *natural*, *cultural* and *constructural* components and city stakeholders' *emotions*, *actions*, and *reflections* through Peirce's *Pragmaticism*. Employing Peirce's semiotic analysis enables the examination of how physical elements, such as architecture, public spaces, and urban infrastructure, interact with and influence the social dynamics, cultural narratives, and

personal experiences of city stakeholders. This comprehensive and *holistic* approach enriches the understanding of urban spaces and aids in developing environments that resonate more deeply with the expectations of city stakeholders for desirable urban experiences.

By bypassing the commonly shallow application of Peirce's triad of "*icons*, *indices*, and *symbols*", *Desirable Cities* is focusing instead on Peirce's complex phenomenological approach, allowing the study and analysis of how city stakeholders perceive urban *symbolism* and *imageries* in everyday life experience within their city. From Peirce's comprehensive phenomenological categorisation of signs, *Desirable Cities* pays particular attention to Signs "*VIII*", "*IX*", and "*X*" (Peirce, 1931-58) for their complexity.

Sign "*VIII*" is a foundational layer of *Desirable Cities*' semiotic analysis, decoding people's *emotions* towards their city. These are essentially the emotional urban imageries; for example, the yellow light (pattern or "*Legisign*") of a traffic light ("*Symbol*") can trigger people to feel rushing up ("*Rhematic*").

Sign "*IX*" adds another layer to *Desirable Cities*' semiotic analysis, as it addresses recognisable manifestations of the urban dynamic existence, which triggers *actions* in people. These *actions* can be physical or mental; for example, the yellow light ("*Legisign*") of a traffic light ("*Symbol*") can trigger people to move faster or to consider their journey's time management ("*Dicisign*").

Sign "*X*" can be seen as broader narratives or discourses that emerge from the interplay of urban experiences, adding to *Desirable Cities*' semiotic analysis of the city's cultural ethos, its history, and its aspirations for the future experiences through the eyes of the city stakeholders' singular *reflections*; for example, the yellow light ("*Legisign*") of a traffic light ("*Symbol*") can trigger people's reflections about how traffic lights help to organise the city's traffic or perhaps make them think that is better to have roundabouts instead of traffic lights ("*Argument*").

Therefore, Peirce's *Pragmaticism* provides *Desirable Cities* with an alternative research paradigm that reveal the correlation of city stakeholder's *emotions*, *actions*, and *reflections*, with the environment's *natural*, *cultural* and *constructural* components, in a *holistic* approach that balances city development with ecological sustainability and social well-being, through a semiotic analysis of city's imageries (signs), which *Desirable Cities* addresses as *Cities' PID*s. This encapsulates the complexity of urban environments, acknowledging their physicality while giving equal importance to human experiences. This framework enables a detailed analysis of how urban spaces are perceived, experienced,

and desired, allowing for scientifically sound research and empathetically driven urban studies.

Adapting Peirce's semiotic methodologies to urban studies transcends traditional boundaries, allowing for a *holistic* interpretation of urban phenomena. Peirce's categorisation of signs encompasses "*object*" (the environment in its *holistic* scientific understanding), "*representamen*" (perceptions of the environment), and "*interpretant*" (responses to the environment through the perceptions: *emotions*, *actions* and *reflections*). It provides a methodological and scientific framework for developing a tool to analyse how urban spaces are perceived and interpreted by their city stakeholders, facilitating a deep understanding of urban experiences, which in turn form people's expectations for future desirable urban experiences. These phenomenological, tailor-made tools could evaluate whether people are aware of their emotions, actions, and *reflections* related to their city, to understand what triggers their expectations for desirable urban experiences and how they can communicate those expectations to other city stakeholders. Therefore, by incorporating Peirce's *Pragmaticism* into the complex semiotic web of cities, it is feasible to delve deeper into the understanding of urban desirability, which articulates subjective urban experiences with objective urban environments.

13. *DESIRABLE CITIES' NATURAL* ENVIRONMENT FRAMEWORK

13.1. Understanding Earth

Throughout history there has always been a profound human attempt to understand the universe. Early creation myths, stories and narratives found across cultures dating back to the emergence of *Homo sapiens* approximately 500,000 years ago (Coles 2001, 1–2). They provided initial frameworks to explain the origins of the cosmos and life itself. These early stories sought to interpret past events and instilled an instinctive drive to predict *natural* phenomena, such as wind patterns, ocean tides, and lunar cycles. Over time, this capacity evolved to anticipate seasonal changes and even cosmic events, such as eclipses and comet cycles. This predictive ability extended to human activities, influencing commercial developments, technological advancements, and territorial expansions. As people began to understand that the world operates through discernible processes, the study of cause and effect emerged and was transmitted through "collective learning" (Christian 2018, 19). This inquiry laid the groundwork for the foundational principles of scientific investigation, which took shape in the ancient world around 2,600 years ago (Coles 2001, 4–5). Moving beyond the anthropomorphic myth, early scientists

applied mathematics and geometry to *natural* phenomena; for instance, eclipses, once seen as divine warnings, were recognised for their regularity, prompting a shift toward systematic prediction.

Over centuries, observations became increasingly refined, leading to Isaac Newton's theory of universal gravitation in 1687, which provided a mathematical foundation for understanding the cosmos from Babylonian times through the work of Copernicus, Galileo, and Kepler (Coles 2001, 5–6). Later advancements, such as Dmitri Mendeleev's periodic table (Feynman 2011, 48–49), Einstein's general theory of relativity and Hubble's discovery of the expanding universe further underscored that a balanced ecosystem is not only essential for life but also offers critical insights into people's capacity to predict and adapt to change. In the present era, despite advances that have addressed some threats (e.g., ozone depletion), challenges like climate change persist, demanding that future human environments, and by extension, cities must be designed with an acute awareness of these ongoing threats and necessary balance (Solomon et al. 2016, 269–74).

13.2. Earth and people

Biodiversity is widely recognised as the cornerstone of Earth's ecosystem resilience and stability, with each species uniquely maintaining ecological functions. The loss of even a single species, like bees, can trigger cascading disruptions that compromise ecosystem services vital for human survival (Kumar 1990). In this context, *natural* ecosystems provide essential life-support functions that create the conditions necessary for life on Earth. Urban areas, however, introduce unique challenges by altering these processes through cities' development and contemporary human activities.

13.2.1. Life support functions of ecosystems: Climate, water, and nutrient cycling

Ecosystems provide many essential services vital for people's survival and well-being. These ecosystems regulate the Earth's climate, purify and regulate water, facilitate soil formation and nutrient cycling, support pollination, underpin food production, and sequester carbon. Terrestrial ecosystems, such as forests, grasslands, and wetlands, play a crucial role in climate regulation and provide sources of oxygen and food. Through photosynthesis, these systems absorb carbon dioxide and store it in plant biomass, litter, and soil organic matter, thus influencing the global carbon cycle (Smith et al. 2013; Daba

and Dejene 2018). This capacity extends from local to global, ensuring a stable oxygen supply. Maintaining these ecosystems is vital for preserving habitats and biodiversity, as well as securing essential ecological processes (Mengist et al. 2020).

Natural ecosystems are also indispensable for water purification and regulation. Wetlands and forests naturally filter pollutants, regulate water flow, and maintain water quality. Freshwater systems, including rivers, wetlands, and aquifers, play a critical role in mitigating floods and droughts, while the soil ecosystem manages water flows and provides purification by storing and filtering water (Smith et al. 2013; Anikwe and Ife 2023). Moreover, soil ecosystems underpin nutrient cycling by decomposing organic matter. Microorganisms in the soil mediate the breakdown of organic materials, releasing essential elements such as nitrogen, phosphorus, and sulphur, vital for plant growth and soil structural preservation (Anikwe and Ife 2023).

Pollination, another crucial service provided by ecosystems, is primarily driven by insects, birds, and bats. This process is essential for the reproduction of many plant species, including those that form the basis of food production. Without these natural pollinators, a significant number of plant species would fail to reproduce, severely impacting both biodiversity and food security (Mengist et al. 2020; Khalifa et al. 2021). Additionally, ecosystems provide the foundational conditions necessary for agriculture. They offer fertile soils, reliable freshwater, and effective pollination services, enabling the production of a diverse array of foods, from crops and fruits to fish and game (Anikwe and Ife 2023; Khalifa et al. 2021; Durazzo et al. 2020).

Forests and oceans are particularly important for carbon sequestration. As plants grow, they absorb carbon dioxide from the atmosphere and store it in their tissues, which is critical for mitigating climate change by reducing greenhouse gas concentrations. Wetlands and soils further contribute to carbon storage, reinforcing the stabilising influence of these ecosystems on the global climate (Ivanova 2007; Warwick and Zhu 2012).

The combined effect of these ecosystem functions creates a stable environment essential for life on Earth. Preserving habitats, biodiversity, and the continuity of ecosystem services is fundamental for *natural* systems and crucial for people's lives. This interdependence underscores the importance of ecosystem conservation and sustainable management of natural resources (including sustainable cities), which are critical for ensuring people's lives and well-being, safeguarding the planet's future (Al-Kaisi and Licht 2001; Lal 2008; Ivanova 2007; Robbins 2007).

13.2.2. Urban ecosystem services: Enhancing air quality, thermal comfort, and well-being

Urban ecosystem services are essential in enhancing the quality of life for city stakeholders and underpinning sustainable urban environments. *Natural* ecosystems within cities, such as parks, street trees, and green roofs, contribute to aesthetic appeal and provide tangible benefits that directly improve public health and environmental quality. For example, urban vegetation functions as a natural air filter by absorbing pollutants and releasing oxygen through photosynthesis, which helps mitigate the detrimental effects of traffic and industrial emissions (Leegood et al. 2000; Edeigba et al. 2024). This process is crucial in reducing harmful substances, such as nitrogen dioxide, ozone, and particulate matter, thereby lowering the risk of respiratory problems among city stakeholders.

In addition to air purification, urban green spaces play a crucial role in regulating temperature. Trees and other vegetation create shade and release moisture, which significantly cools urban areas and alleviates the urban heat island effect (Doick et al. 2014; Kraemer and Kabisch 2022). Empirical research in cities such as Berlin has demonstrated that well-managed parks can provide a measurable cooling effect, enhancing thermal comfort even during periods of extreme heat. Moreover, these green features serve a dual purpose by simultaneously attenuating urban noise levels; the physical structure of trees, shrubs, and vegetation absorbs and diffuses sound waves, resulting in quieter, more liveable spaces that contribute to reduced stress and improved mental health (Dzhambov and Dimitrova 2014; Koptseva and Zaytsev 2020).

Another critical urban ecosystem service is stormwater management. Natural elements, such as rain gardens, bioswales, and constructed wetlands, play a significant role in capturing, filtering, and gradually releasing stormwater. This not only mitigates flood risks by reducing surface runoff but also enhances water quality by preventing pollutants from overwhelming traditional drainage systems (Holman-Dodds 2007; Kloss 2008; Thomas and Houck 2020). Such systems also contribute to groundwater recharge, which is essential for maintaining a sustainable urban water supply.

Urban green spaces further contribute to mental health and overall well-being. Numerous studies have demonstrated that regular exposure to *natural* environments reduces stress, anxiety, and depression while promoting cognitive restoration and social cohesion (Beyer et al. 2014; Ellard 2015, 31; Wood et al. 2017).

Urban ecosystem services are integral to creating sustainable and liveable cities. By incorporating well-designed green infrastructure into urban planning, *city makers*

can improve air quality, regulate urban temperatures, reduce noise pollution, manage stormwater effectively, and strengthen public health, and *city users* benefit by providing spaces for physical activity, social interaction, and a connection with nature, elevating their quality of life (Collins et al. 2020; Ellard 2015, 31). As urbanisation continues to accelerate globally, preserving and enhancing these natural benefits is critical for ensuring resilient, sustainable, healthy urban environments.

13.2.3. Anthropogenic threats to the balance of ecosystems

Human activities are the dominant force driving ecosystem imbalance, significantly undermining biodiversity and ecological stability. Global assessments consistently identify land/sea-use change, direct exploitation, climate change, pollution, and invasive alien species as the five drivers with the most significant overall impact on nature.

The conversion of natural landscapes for agriculture, urban development, and infrastructure leads to extensive habitat destruction and fragmentation. For example, a global synthesis shows that >70% of the world's forests now lie within 1 km of an edge, exposing them to strong edge effects; long term fragmentation experiments reveal biodiversity reductions of 13–75% alongside impaired ecosystem functions (e.g., altered nutrient cycling and lower biomass) (Haddad et al. 2015, 1–2). These patterns and mechanisms are reinforced by road-ecology syntheses and fragmentation reviews documenting pervasive edge effects, isolation, and function loss across biomes (Forman and Alexander 1998, 207–10; Laurance et al. 2009, 659– 63). The construction of highways and other linear infrastructure often creates physical barriers that impede species movement and reduce gene flow, elevating risks of population declines and local extinctions. Classic and contemporary syntheses demonstrate barrier effects, elevated mortality, population subdivision, and reduced connectivity across taxa and regions (Forman and Alexander 1998, 207–10; Laurance et al. 2009, 659–63; Trombulak and Frissell 2000, 21–25).

Overexploitation of natural resources further exacerbates ecosystem degradation. Practices such as overfishing, overhunting, and overharvesting of timber and wild plants continue to drive population declines and ecosystem change at a global scale. In addition, dependence on non-renewable resources creates systemic risks, and the depletion and mismanagement of critical agricultural nutrients such as phosphorus, which is essential for plant growth, pose significant threats to food security and agroecosystem functioning unless circular use and recovery strategies are implemented (Cordell et al. 2009, 292–301; Elser and Bennett 2011, 29–31).

Pollution in its many forms is another critical threat to ecosystem balance. Air pollution, water contamination, and soil degradation are linked to agricultural intensification (synthetic fertilisers, pesticides), and industry and urban runoff disrupt vital processes and directly harm biota. Nutrient enrichment drives eutrophication, harmful algal blooms, and hypoxia in inland and coastal waters, while atmospheric deposition and acidifying pollutants alter terrestrial and freshwater chemistry (Conley et al. 2009, 1014–15; Diaz and Rosenberg 2008, 926–29; Smith and Schindler 2009, 201–7). These pressures are recognised globally as accelerating and compounding other drivers. Additionally, introducing invasive species, often facilitated by global trade and travel, rapidly outcompetes native species and alters habitat structure. In coral reefs, invasive Indo Pacific lionfish have caused severe declines in native reef fish, with experimental work documenting ~79% reductions in recruitment and field studies showing broad community level declines (Albins and Hixon 2008, 233–36; Green et al. 2012, 1–3). In freshwater systems, zebra mussels have profoundly restructured food webs across the Great Lakes and beyond by filtering vast quantities of plankton and altering energy pathways (Strayer 2009, 135–39). These patterns align with global assessments that list invasive alien species among the top five direct drivers of biodiversity loss

Climate change, primarily driven by anthropogenic emissions, has become an increasingly significant threat to ecosystem balance. Rising temperatures are shifting species distributions and disrupting phenology, while extreme events, like fires, storms, and droughts, are intensifying ecosystem damage. Between 2019 and 2020, the Australian bushfires, exacerbated by climate change, burned ~97,000 km² of vegetation across southern and eastern Australia, impacting habitat for 832 vertebrate species and triggering urgent reassessments of extinction risk (Ward et al. 2020, 1321–23). Subsequent syntheses and rapid assessments corroborate the scale of biodiversity impacts and the need for species level recovery planning (Canadell et al. 2021; Legge et al. 2022).

These anthropogenic pressures, with habitat destruction and fragmentation, overexploitation, pollution, invasive species, and climate change, are collectively driving unprecedented biodiversity loss and undermining the planet's life-support systems (Haddad et al. 2015, 1–2). Addressing them requires a holistic and integrated approach that recognises interdependencies across *natural*, *cultural*–economic and constructed urban systems. In practice, this means evidence based conservation, sustainable resource management (including nutrient circularity), ecological connectivity planning (to counter fragmentation), and robust climate mitigation and adaptation, which should

be implemented together and at multiple scales.

13.2.4. Urban expansion and its disruptive impact on Earth's ecosystems

Urban expansion frequently encroaches on natural habitats, resulting in profound environmental impacts that disrupt the delicate balance of ecosystems. The expansion of urban areas often results in the loss of green spaces, which are vital for maintaining biodiversity and supporting essential ecosystem services. Studies indicate that, relative to surrounding non-urban regions, cities typically sustain far lower densities of native species, about only ~8% for birds and ~25% for plants, implying losses on the order of ~92% and ~75%, respectively, when measured against non-urban baselines (Aronson et al. 2014, 4–5). These patterns directly undermine the natural habitats that sustain local flora and fauna and erode ecosystem services such as pollination, carbon storage, and climate regulation in urban landscapes (Aronson et al. 2014, 6; Elmqvist 2013, 7–10). The degradation of green space also affects human well-being; broad evidence links access to urban nature with improved mental health and reduced stress, consistent with dose–response findings from large population studies (Beyer et al. 2014, 3453–54; Geary et al. 2023; Hartig et al. 2014, 2–3).

Alongside the loss of green spaces, urban expansion contributes to increased pollution. The growth of urban areas typically results in higher vehicular traffic and industrial activity, elevating air pollutant concentrations in street canyons and dense cores and producing several-fold increases over nearby rural backgrounds under common conditions (Ai and Mak 2015, 2; Tomson et al. 2021, 3–5). Urban runoff from impervious surfaces transports nutrients, sediments, and contaminants into streams; comparative studies frequently report urban streams carrying 3–5× higher ammonium-nitrogen than regional rivers, with phosphorus and other pollutants likewise elevated (Manning et al. 2020, 2–3; Zhang et al. 2015, 139). Chronic anthropogenic noise further compounds ecological stressors; even in protected landscapes, human noise commonly multiplies background sound levels (2× to ≥10×), with well-documented behavioural and fitness costs across taxa (Barber et al. 2010, 180–82; Buxton et al. 2017, 531–35).

The physical disruption of local ecosystems is equally severe. As cities grow, they fragment natural habitats, creating isolated patches that are less capable of supporting diverse species. Habitat fragmentation and edge effects can be deep and pervasive responses of many taxa to edges persist hundreds of meters into habitat, and for some species, edge effects can penetrate as far as ~1 km into remnants (Ewers and Didham

2008, 5426; Parra-Sanchez and Banks-Leite 2020, 10). Urban environments also tend to favour disturbance-tolerant generalists over specialists, shifting community composition and reducing native richness relative to non-urban assemblages (Aronson et al. 2014, 1, 4–5). Classic road-ecology syntheses detail how transportation networks impede movement and gene flow, elevate mortality, and restructure landscapes in ways that degrade interior-habitat biodiversity (Forman and Alexander 1998, 211–18).

Urban expansion also significantly alters local and regional hydrological cycles. The proliferation of impervious surfaces prevents infiltration and increases surface runoff and peak flows; empirical and review evidence from diverse climates shows substantially elevated peak discharges and flashier hydrographs in urbanized catchments (O'Driscoll et al. 2010, 606–9; Walsh et al. 2005, 706–9). Concomitantly, reduced permeability limits groundwater recharge, often markedly, contributing to lower baseflows and degraded stream habitat (O'Driscoll et al. 2010, 617–22). Urban development also channels and straightens streams, increasing the frequency of high-flow events and channel instability relative to pre-development conditions (Walsh et al. 2005, 709–13). Extensive land-cover modification intensifies urban heat islands (UHI), with typical U.S. city air temperatures averaging ~0.5 – 4 °C above nearby rural areas (day) and ~1 – 3 °C (night), and occasionally higher under particular synoptic and morphological settings (Kabisch et al. 2023, 2–3; Oke 2006, 268–74).

Traditional urban expansion poses significant challenges to ecosystem balance. Addressing these challenges requires integrated urban planning approaches that prioritise the preservation and creation of green spaces, implement green and blue infrastructure, and explicitly account for the ecological impacts of development across whole catchments and regions. Such strategies are essential for creating resilient urban environments that support both human populations and diverse ecosystems (Frantzeskaki et al. 2019, 455–58).

13.3. Earth and cities

Desirable Cities recognises the trend of increasing urban development and advocates for transforming traditional urban expansion practices to align growth with ecological sustainability. Current knowledge and available technologies offer the potential to mitigate the negative impacts of human activities on the Earth's ecosystems and to foster genuinely sustainable cities. In practice, urban planners and policymakers are increasingly incorporating ecosystem based adaptation, nature based solutions, and

green-blue infrastructure into development, which can simultaneously manage flood risk, ameliorate heat stress, enhance biodiversity, and deliver public-health co-benefits (Frantzeskaki et al. 2019, 455–59; Kabisch et al. 2017). For example, Singapore's long-running "*ABC Waters*" programme demonstrates that distributed green-blue measures (bioswales, bioretention, rain gardens) can reduce peak runoff while upgrading public space quality and liveability (Goh et al. 2017; Yau et al. 2017).

As Magnaghi's territorialist framework argues, a city's physical growth must be harmonised with ecological integrity and social well-being, ensuring that *natural*, *built*, and *anthropic* dimensions interact in synergy rather than conflict (Magnaghi 2011, 90– 93). Furthermore, Sagan's reflection on Earth reminds people of their collective responsibility to preserve the planet, while Christian situates urbanisation within deep time, stressing that a long term planetary perspective is essential for planning future cities (Christian 2011, 1–2, 406–39; Sagan 1997a, 6–8). In essence, achieving urban prosperity now requires a *holistic*, eco-centric mindset integrating insights from environmental science, social theory, and urban design, leaning to an *interdisciplinary* approach critical for *city makers* to meet immediate human needs and desires, while safeguarding ecosystem integrity for future generations (Elmqvist 2013, 3–12).

13.3.1. Integrating Earth's sustainability into city development

Sustainable urban development needs a comprehensive approach that integrates ecological considerations into every planning and delivery stage. Preserving and creating urban green spaces is foundational; well-designed urban green space networks can support substantial fractions of native biodiversity and attenuate the losses otherwise observed with urbanisation—global syntheses indicate that cities typically retain ~25% of native plant species and ~8% of native bird species relative to regional non-urban assemblages, with higher retention when habitat area and connectivity are prioritised (Aronson et al. 2014, 4–5). These spaces also provide critical ecosystem services like air purification, temperature regulation, and carbon storage; for example, U.S. urban trees remove approximately 711,000 t of air pollutants annually (Nowak et al. 2006, 115). Access to nature is further associated with better mental health outcomes in large, representative cohorts (Beyer et al. 2014, 3453–54; Hartig et al. 2014, 2–3).

In addition to parks and urban forests, implementing Green Infrastructure (GI) is crucial. Bioretention, bioswales, rain gardens and related "sponge city" measures reduce runoff volume and peaks and improve water quality; performance syntheses and design

guidance document high removal efficiencies for sediments and meaningful nutrient reductions (O'Driscoll et al. 2010, 606–9; Yau et al. 2017, 2–5). At the microclimate scale, tree canopy, green roofs, and larger green blue spaces mitigate heat exposure by cooling surfaces and lowering local air temperatures, with cities worldwide experiencing UHI reductions when GI is deployed at scale (Kabisch et al. 2023, 2–3). Natural treatment trains (e.g., bioretention + constructed wetlands) can also remove substantial suspended solids and associated pollutants from stormwater.

Sustainable urban mobility is another pillar. Public transport, active modes, and strategic electrification enable deep cuts in transport emissions when powered by low-carbon electricity and paired with compact, multimodal urban form. Evidence from cities with sustained investments in cycling and transit indicates that high active-mode shares and lower per-capita transport emissions are achievable, with major public-health co-benefits (Frantzeskaki et al. 2019, 457–59). Adopting high performance building practices is equally essential. Energy efficient design and operations in certified green buildings are commonly associated with significant energy savings at the portfolio level, while water-efficiency measures (efficient fixtures, rainwater harvesting, on site reuse) can markedly reduce potable demand; materials strategies and construction-waste management divert substantial tonnages from landfills.

Integrating Earth's ecosystem considerations into urban planning, through preserving green spaces, implementing green-blue infrastructure, promoting sustainable mobility, and advancing green buildings, is critical for creating sustainable and resilient cities. This holistic approach mitigates the adverse environmental impacts of urbanisation and enhances quality of life for residents, fostering healthier and more liveable urban environments (Frantzeskaki et al. 2019; Kabisch et al. 2017).

13.3.2. Ecosystem-based Adaptation: Enhancing urban resilience through nature-based solutions

Ecosystem-based Adaptation (EbA) is an innovative strategy that leverages *natural* systems to address environmental challenges in urban areas, thereby enhancing resilience by working with nature rather than against it. This approach enables cities to mitigate the impacts of climate change, manage flood risks, improve air and water quality, and promote urban biodiversity, offering multiple benefits to all city stakeholders (IPCC - Intergovernmental Panel On Climate Change 2023, 907– 1040; Kraemer and Kabisch 2022, 1–3). Ecosystem based strategies are effective climate adaptations:

urban green spaces and green roofs measurably cool local microclimates. Systematic and cross-city evidence shows average park-cool-island air-temperature reductions of ~1–3 °C and maxima approaching ~6–7 °C in hot conditions, depending on park size, structure and background climate (Aram et al. 2019, 1–3; Bowler et al. 2010, 147–55; Zhang et al. 2024). Moreover, urban vegetation acts as a vital carbon sink: recent United States' inventory modelling estimates urban trees sequester approximately 25.6 million t of carbon annually and store ~643 million t of carbon, a substantial contribution to climate regulation (Nowak et al. 2013, 229–30; Nowak and Crane 2002, 381–89). *Natural* systems also enhance resilience to extremes: process-based global modelling shows mangroves alone avert > US$65 billion in flood damages each year and protect approximately 15 million people annually, underscoring the economic and ecological importance of EbA strategies (Menéndez et al. 2020).

In managing flood risks, EbA approaches leverage natural water retention. Urban rain gardens, biofilters and wetlands attenuate hydrographs by storing and infiltrating stormwater; field and meta analytic evidence shows meaningful reductions in runoff volumes and event peak flows at site and catchment scales (Pampaloni et al. 2024; Winston et al. 2016). Increasing permeable and infiltrating surfaces further enhances infiltration, reviews report 30–65% runoff reductions for permeable pavements and substantial peak-flow attenuation for infiltration trenches and biofilters (Hatt et al. 2009). Riparian buffers and floodplain vegetation slow flood waves and dampen peaks by increasing roughness and temporary storage, improving downstream flood behaviour (Gay et al. 2023). Beyond flood management, EbA significantly improves air and water quality. Urban trees remove pollutants, for example in the United States is estimated that approximately 711,000 t yr^{-1} of O_3, PM_{10}, NO_2, SO_2 and CO are removed by urban trees and shrubs (Nowak et al. 2006, 115–23), while street scale green infrastructure can reduce near-road particulates by approximately 7 to 24% (Abhijith et al. 2017, 71–79). Constructed wetlands and biofiltration systems consistently achieve high removal of suspended solids (often >70–90%) and appreciable nutrient reductions in urban stormwater (Hatt et al. 2009; Nazarpour et al. 2023).

Enhancing urban biodiversity is another critical aspect of EbA. Urban green spaces provide essential habitats; globally comparative analyses show that, although richness is reduced, cities still retain significant shares of native plant and bird assemblages and that vegetation structure/area strongly govern outcomes (Aronson et al. 2014). Creating green corridors facilitates ecological connectivity; meta-analysis shows habitat corridors increase species movement by ~50% relative to isolated patches, improving colonisation

and persistence (Gilbert-Norton et al. 2010, 660–68; Christie and Knowles 2015). Selecting native plant palettes in parks, streetscapes, and private lots supports more specialised herbivores and higher insect diversity compared with non-native plantings, strengthening urban food webs (Burghardt et al. 2009, 219–24; Narango et al. 2018, 11549–54).

Ecosystem based Adaptation thus offers a robust, multi benefit pathway to urban resilience. By leveraging *natural* systems, cities can mitigate climate risks, reduce flood damages, improve air and water quality, and foster biodiversity, while also delivering public-health, amenity and economic co-benefits that scale with thoughtful design and governance (IPCC - Intergovernmental Panel On Climate Change 2023, 907–1040; Kraemer and Kabisch 2022).

13.3.3. Critical synthesis of sustainable development strategies

The sustainable development of urban areas hinges on recognising the interdependence of *natural* systems and human society. The harmonious balance of Earth's ecosystems is fundamental to sustaining life, as each component, including microbial communities to vast forested landscapes, supports stability and resilience (Andersson et al. 2014, 445–53; Daily 1997, 1–30; Folke et al. 2011, 719). *City makers* must integrate *natural* systems into urban development to preserve essential ecosystem services (air purification, climate regulation, water filtration) and co-design with nature rather than against it (IPCC - Intergovernmental Panel On Climate Change 2023, 907–1040; Kabisch et al. 2017).

Addressing ecological challenges requires *holistic*, adaptive management spanning *natural*, *cultural* and *constructural* dimensions. Adaptive approaches emphasise iterative learning and flexibility across sectors, enabling cities to recalibrate policies as ecological conditions change (Folke et al. 2011). Education and public awareness are likewise pivotal: communicating planetary processes and long time-scales expands civic capacity to support sustainability (Christian 2011, 1–12; Sagan 1997b, 25–40).

Ecosystem services carry profound economic value. Updated global assessments estimate aggregate values on the order of US$ 125 trillion per year, emphasising the macro-economic stakes of ecosystem degradation (Brondízio et al. 2019; Costanza et al. 2014, 152–58; UNEP 2010). Urban areas, which are home to more than half of humanity, are simultaneously hotspots of ecological pressure and key loci for nature based solutions

(United Nations 2019). Recognising these interdependencies and embedding EbA/NbS within planning, finance, and governance yields a coherent strategy in which economic vitality, social equity and environmental integrity reinforce one another over time (IPCC - Intergovernmental Panel On Climate Change 2023, 907–1040; Kabisch et al. 2017).

13.4. Earth and communities

Magnaghi's theoretical framework emphasises the interconnectedness of environmental components for human development. He distinguishes three mutually reinforcing dimensions: the *natural* environment (landscape, biota, resources), the built environment (infrastructure and fabric), and the anthropic environment (social relations, culture, community dynamics), insisting that they be treated as inseparable in territorial projects (Magnaghi 2005, 41–54; 2011, 91–106). This tripartite model underpins *Desirable Cities*, providing a lens to analyse how *natural*, *cultural* and *constructural* environments co-produce urban desirability and resilience. Parallel ecological design traditions similarly argue for integrating biophysical processes with urban form (Folke et al. 2011; McHarg 1992, 5–22).

Integrating Magnaghi's components with broader cosmic and historical perspectives enriches this framework. Sagan's reflections on Earth's fragility cultivate an ethic of planetary stewardship, while Christian's deep-time "*big history*" places urbanisation within planetary evolution, both expanding the horizon for city-making (Christian 2011, 1–14; Sagan 1997a, 1–7; 1997b, 25–39; 2000, 73–75; 2013, 229–55). The result is a participatory, place-based approach in which local knowledge, ecological processes and spatial design align to produce environmentally sustainable and socially inclusive urban spaces. This holistic, comprehensive, interdisciplinary approach is vital for understanding the forces in urban settings and for fostering resilient, harmonious urban environments that genuinely reflect city stakeholders' diverse needs and desires.

13.5. Earth and education

Desirable Cities incorporates a comprehensive understanding of environmental diversity and the urgent need for a scientifically literate society, recognising Earth's delicate balance. Sagan's public communication, primarily through his television program, *Cosmos*, demonstrated how narrative and evidence can make complex planetary science accessible, nurturing support for policies safeguarding environmental health

(Sagan 1997b, 25–39; 2013, 229–55). Christian's development and free online diffusion of an educational program, *Big History Project*, similarly frames human development within planetary and cosmological processes, encouraging long term thinking in Earth's sustainability (Christian 2011, 1–12; 2018, 3–14). Together, these case studies of social educational frameworks inform *Desirable Cities*' commitment to empowering stakeholders with the knowledge needed to design resilient urban environments aligned with the *natural* world.

13.5.1. Sagan's *Cosmos*: An educational program for general audiences through television

Carl Sagan's Cosmos: A Personal Voyage (1980–1981) is widely recognised as a landmark in mass-media science communication, blending cinematic visuals with narrative to convey complex cosmology, planetary science and Earth's system interdependence to lay audiences (Gregory and Miller 2000, 151–77; LaFollette 2013, 71–83, 121–35; Sagan 2013, 3–13). These design choices anticipate and exemplify empirically supported strategies in science communication: narrative formats typically enhance comprehension, attention, and persuasion among non-expert audiences (Dahlstrom 2014, 13614–20; Fischhoff 2013, 14033–39; Nisbet and Scheufele 2009, 1767–78).

Beyond pedagogy, Sagan's signature "*cosmic perspective*", most memorably articulated in Pale Blue Dot, frames Earth as a fragile, interdependent biosphere, a rhetorical move often linked to pro-environmental attitudes through awe, perspective taking and global identity (Loy et al. 2024, 2–6; Sagan 1997a, 6–13; van Horen et al. 2024, 1–3; Yaden et al. 2016, 1–4). Importantly, this affective pathway is increasingly corroborated by findings around the "*overview effect*", an awe-induced cognitive shift associated with enhanced nature-connectedness and pro-environmental intention (Loy et al. 2024, 7–10; van Horen et al. 2024, 6–9; Yaden et al. 2016, 1–3).

At the same time, Cosmos must be situated within the longer, contested history of "*science on American television*", a domain that has alternated between educational ambition and commercial constraints (Goodell 1977, xiii–xv, 1–7; Gregory and Miller 2000, 145–80; LaFollette 2013, 25-69,121-135). This history informs a central debate in the field: whether broadcasting should privilege one-way "*deficit*" transmission of facts or dialogic engagement with public values and contexts (Fischhoff 2013, 14033– 35; Gregory and Miller 2000, 58–63; LaFollette 2013, 25–69, 121–35). Sagan's pedagogy

undeniably advanced scientific literacy at scale, but it also inherits the limitations of broadcast-era formats, where opportunities for deliberation, co-creation, and attention to audience values are structurally constrained (Fischhoff 2013, 14033– 36; LaFollette 2013, 121–35; Nisbet and Scheufele 2009, 1769–72).

A further line of critique targets what Lessl terms Sagan's "*ideological rhetoric*", in which science can be cast with quasi-sacral authority; such framing can inspire, but it also risks blurring demarcations among science, ethics, and metaphysics (Goodell 1977, 7–9; Gregory and Miller 2000, 112–17; Lessl 1985, 175–87). The broader "*Sagan effect*" literature additionally interrogates whether high-visibility outreach penalises academic careers, though recent empirical work suggests the relationship between impact and outreach is curvilinear rather than negatively linear (Azagra-Caro and Pavone 2024, 1–4; Martinez-Conde 2016, 2077–82; Olesk 2021, 1–3). Taken together, these debates reinforce a central insight for this thesis: mass-media science can catalyse environmental awareness at scale, but sustainable shifts in civic behaviour depend on integrating engaging narratives with dialogic, two-way participation and attention to values, equity and context (Dahlstrom 2014, 13614–20; Fischhoff 2013, 14033–39; Nisbet and Scheufele 2009, 1773–76).

Implication for *Desirable Cities*. For urban sustainability agendas that hinge on public stewardship of ecosystems, broadcast era exemplars like Cosmos illustrate how to mobilize awe, narrative and visualization to seed environmental literacy, assets that should be coupled with participatory, locally grounded engagement to translate planetary awareness into durable pro-environmental action (Ardoin et al. 2018, 1–6; Hungerford and Volk 1990, 8–13; Steg and Vlek 2009, 309–13). However, this task must take in consideration today's ways of communicating and share information, which leads to analyse the work of David Christian: *The Big History Project.*

13.5.2. Christian's *Big History*: An educational program for schools through free online access

David Christian's Big History weaves a single, empirically anchored narrative from the Big Bang to present-day societies, organising complexity growth into "*thresholds*" that situate human urbanisation and ecological disruption within planetary and cosmic processes (Brown 2007, 215–23; Christian 2011, 3–20; Spier 2011, 1– 10). Pedagogically, the *Big History* operationalises this synthesis with free K-12 curricula, by project based tasks and digital media to cultivate systems thinking, causal reasoning across scales,

and cosmopolitan ethical reflection (Brown 2007, 215–23; Christian 2011, xxi–xxiv; Spier 2011, 215–26). These emphases reflect robust learning science: active learning outperforms lecture in STEM and knowledge transfer (Freeman et al. 2014, 8410–15), project based learning can deepen conceptual understanding (Condliffe et al. 2017, 3–7), and transdisciplinary inquiry is foundational in sustainability science (Lang et al. 2012, 26–30).

Today, the *Big History* project is delivered as part of the OER Project, which is a free, online course ecosystem that includes *Big History* and *Climate* programs with sequenced units, videos, readings, writing tasks, and assessments; it is designed to be adopted at scale by schools and individual teachers globally. Course landing pages describe the modular structure, embedded media, and teacher supports, and the OER Project site foregrounds professional development, teacher community, and events that anchor ongoing practice (OER Project Courses; OER Project homepage; OER Project Events).

Unlike Sagan's *Cosmos* (broadcast era), *Big History* was developed during the Internet era. This matters because the Internet and social media platforms (YouTube, TikTok, Instagram, etc.) eclipse or rival TV as primary gateways to information (Akpan et al. 2024; Barrios-Rubio 2024; Pérez-Escoda et al. 2024; Swastiningsih et al. 2024). For *Desirable Cities*, this media shift is significant, as the research explores the current ways of communication for city stakeholders to share their urban experiences and expectations. This insight encourages leveraging social networks and digital tools to amplify the city stakeholders' voice and ecological stewardship. *Big History*'s free, modular, internet-scaled design is a valuable template for urban environmental literacy: reducing access barriers and supporting teacher communities worldwide.

Big History's long duration framing habituates learners to link local urban environmental issues to planetary boundaries and the Anthropocene, translating Earth's system constraints into civic awareness (Crutzen 2002, 23; Rockström et al. 2009, 472–75; Steffen et al. 2015). This aligns with evidence from environmental education and environmental psychology, indicating that well-designed education shapes knowledge, attitudes, and behaviour (Hungerford and Volk 1990, 8–21; Steg and Vlek 2009, 309–17). It also corresponds with the *transdisciplinary* co-production logic advocated in sustainability science (Lang et al. 2012, 26–30), and proposed in *Desirable Cities*.

Moving from TV to the internet changes the communication problem: online narratives and influencers powerfully shape attention and belief formation. Proceedings of the National Academy of Science (PNAS) recommend story-rich, evidence-anchored

formats and dialogic design to compete with misinformation and to match how people actually consume knowledge online (Brossard 2013; Dahlstrom 2014, 13614–20; Nisbet and Scheufele 2009). This is precisely *Big History*'s strength, with compelling narrative arcs ("*thresholds*") married to sources, claims, evidence, and reasoning (Christian 2011, xxi–xxiv; Spier 2011, 215–26).

Big History's integrative take is valuable yet not without controversy. Historians and rhetoricians warn that grand narratives can flatten heterogeneous pasts, underplay contingency, and marginalise indigenous epistemologies and local moral pluralism (Hughes-Warrington and Martin 2021, 1–7; Gregory and Miller 2000, 112– 17; Lessl 1985, 175–87). For *Desirable Cities*, the implication is clear: retain the scale connecting the power of the *Big History* project, while institutional deployments in cities actively incorporate dialogic pedagogies, local knowledge, and critical media literacy.

13.6. Earth's ecological harmony for life: Conclusion of the *Desirable Cities*' *natural* environment framework

Analysing the *natural* environment demonstrates that ecological sustainability is inextricably linked with human well-being and city development. *City makers* must have an *interdisciplinary* understanding of Earth's ecosystem balance in order to develop cities that foster environmental integrity and enhance community well-being. Training programmes should integrate modules of this paramount *interdisciplinary* knowledge. These educational initiatives, enriched by practical case studies, can enable *city makers* to critically assess and respond to the dynamic interplay between nature and cities when performing their making responsibilities.

Equally important is the role of awareness campaigns for *city users*; these campaigns should utilise interactive and participatory methods to illustrate the vital role of the Earth's ecosystem for enhancing life and well-being. By employing clear and accessible messages incorporating this *interdisciplinary* know-how, *city users* can significantly improve the current ecological crisis related to climate change. Combining professional training with robust public engagement ensures that the creators and users of urban spaces have shared sustainable goals for the benefit of all.

14. DESIRABLE CITIES' CULTURAL ENVIRONMENT FRAMEWORK

14.1. Understanding people's perceptions

Humans are highly vision-oriented creatures, with a disproportionate amount of neural processing devoted to visual input (Baker 2012; Ekstrom 2015; Moore and Zirnsak 2017; Posner et al. 1976). While traditionally, the five senses are recognised (sight, taste, smell, hearing, and touch), human sensory perception extends beyond these basics to include senses such as temperature, balance, and acceleration, among others (O'Shea 2005, 64). It is generally accepted that human beings evolved to perceive the world through the eyes primarily, and as a result, visual perception plays a dominant role in understanding the environment (Ellard 2015, 26). Other senses contribute, but vision leads to constructing people's realities from experiences. The human eye evolved to adapt to early environments, like the East African savannah. Where the human visual system was first developed to meet survival needs (Ellard 2015, 35). Notably, eyes as organs of sight have arisen multiple times in evolutionary history. Complex image-forming eyes evolved independently on numerous occasions across different lineages (Dawkins 1997, 127–30), exemplifying convergent solutions to the challenge of sensing light. Early eyes in ancient organisms could only distinguish light from dark, but they became increasingly specialised over billions of years of evolution (Dawkins 1997, 130). The human eye operates on principles analogous to a camera: the iris and lens regulate incoming light, focusing it onto the concave retina at the back of the eye, where photoreceptor cells transduce light into neural signals transmitted along the optic nerve. These signals then pass into the brain for processing.

Within the brain, vision engages an extensive network of regions. Roughly one-third of the human cerebral cortex is involved in visual processing (Pinker 2015, 20). The visual system interprets light patterns on the retina to recognise objects, a task accomplished through conscious and unconscious processes. Some visual responses occur reflexively, such as moving away from a rapidly approaching object, while others involve higher-level cognition, including facial recognition, colour perception, and spatial understanding (Pinker 2015, 20). Notably, many visual impressions influence people on a subconscious level, shaping emotions and behaviours without immediate awareness. For instance, a study by Ulrich found that hospital patients whose windows offered a view of nature recovered quicker than those facing a brick wall. This suggests that natural visual stimuli can exert a soothing, restorative effect, providing comfort and stress relief in ways that stark artificial environments do not (Ellard 2015, 36).

The human retina contains two types of photoreceptor cells: rod cells and cone cells. Rod cells mediate non-colour vision, while cone cells enable colour vision. A small area of the retina, the fovea, consists solely of cone cells and generates the sharpest image possible (Dawkins 1997, 160). The involuntary focusing of the visual image onto the fovea is no coincidence, as it directs attention to whatever demands focus.

Many factors compel attention. When people detect an unexpected flavour in a familiar food, the object of attention is examined visually. Similarly, a sudden sound triggers a head movement to locate the source, and when something is felt but not seen, the mind speculates about its nature (Mumford 2021; Wilson and Bar-Anan 2008). Balance during movement is also mediated by sight, as maintaining balance becomes more difficult without visual input. Human beings use their eyes not only to react to immediate stimuli but also to anticipate potential dangers based on past experiences. Just as ancient ancestors scanned trees for snakes or long grass for lions, people today use visual attention to build a coherent mental representation of their world. This cognitive process aids survival and adaptation in the East African savannah or a modern megacity (Ellard 2015, 48).

14.2. Introduction to Maturana

Humberto Maturana's work offers a vital theoretical link between biological structures and how people perceive and cognitively engage with their environment. Maturana and Varela introduced concepts revealing how living systems maintain and recreate themselves and how such processes inform cognition. His approach transcends conventional biology by arguing that organisms are not just passive recipients of environmental stimuli but are continuously generating, repairing, and defining themselves in a dynamic interplay with their surroundings (Lyon 2004; Maturana and Varela 1992, 17–117). These ideas, encapsulated in "*autopoiesis*" and "*structural coupling*", suggest that understanding cognition is inseparable from understanding how organisms perpetuate their living state. Maturana's emphasis on love, cooperation, and *holistic* education further enriches a view of human social existence that corresponds with the *Desirable Cities*' paradigm, highlighting urban life's affective and communal dimensions.

14.3. Maturana's concept of "*autopoiesis*"

"*Autopoiesis*" is a concept introduced by Maturana to describe living systems' self-creating and self-maintaining characteristics: "*auto*" = self, and "*poiesis*" = creation. It emphasises that these entities continuously produce and repair their components, sustaining their distinct identities within their environments (Maturana 1980, 77–84). It shifts the focus from a view of organisms as passive entities responding to stimuli to a perspective where living beings actively generate the conditions for survival and reproduction (Lyon 2004, 21–28; Maturana 1980, 77–84).

"*Autopoiesis*" clarifies how cells maintain their structure and function, not as chemical automatons but as systems perpetually engaged in metabolic processes crucial for their autonomy and stability (Bourgine and Stewart 2004, 327–33). Rather than seeing the environment as controlling the organism, autopoiesis implies that an organism continuously reconstitutes itself. This approach underpins newer models in cognitive science, often called enactive or embodied cognition, which see cognition as an adaptive engagement between an autopoietic system and its environment (Capra 2022).

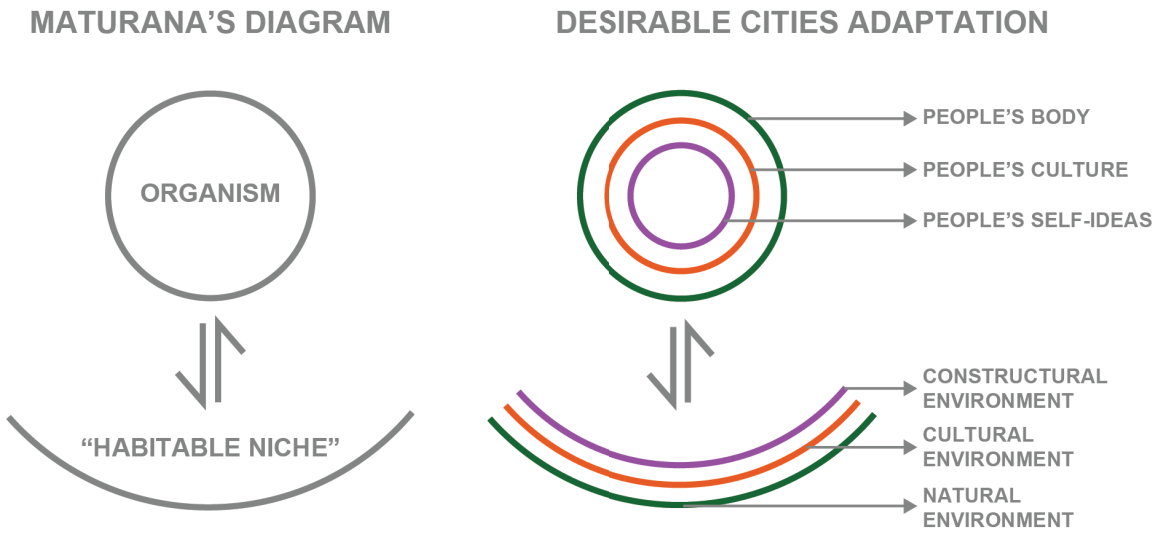


Image 106. *Maturana's diagram of "autopoiesis" and Desirable Cities representation.*

Applied to social sciences, Luhmann extrapolated autopoiesis to conceptualise social systems as self-referential entities reproducing their structures through ongoing interactions of communications, norms, etc. (Capra and Luisi 2014, 252–61; Luhmann 1990, 34–48; 2013, 30–38). Such formulations illustrate the autonomy and resilience of social networks even amid changing conditions. Within *Desirable Cities*, autopoiesis underscores that city life is not solely shaped by external planning but emerges through adaptive, self-maintaining processes that individuals experience at both individual and collective levels. This allows for highlighting and considering each persons' *natural*

(biology), *cultural* (perceptions) and *constructural* ideas (interpretation) within their environment, which, as discussed before, can also be organised as *natural*, *cultural* and *constructural* or built. See *Image 106*: *Maturana's diagram of* "autopoiesis" and Desirable Cities representation.

14.4. Maturana's concept of "*structural coupling*"

"Structural coupling" constitutes a foundational principle in cognitive biology by emphasising the reciprocal, ongoing interaction between living systems and their environments. This concept moves beyond a simple stimulus-response model; instead, it posits that organisms actively engage with their surroundings, continuously adapting while preserving their internal organisation (Maturana and Varela 1992, 75- 80,180-192). In this framework, structural coupling is not merely a passive absorption of external stimuli but a dynamic co-existing process, where the recurrent interactions between an organism and its environment create a history of congruence that informs the organism and its "*habitable niche*" (environment), including both behaviour and identity. These interactions over time show changes at both ends, the environment and the organism, in a process that Maturana refers to as as "*natural drifting*".

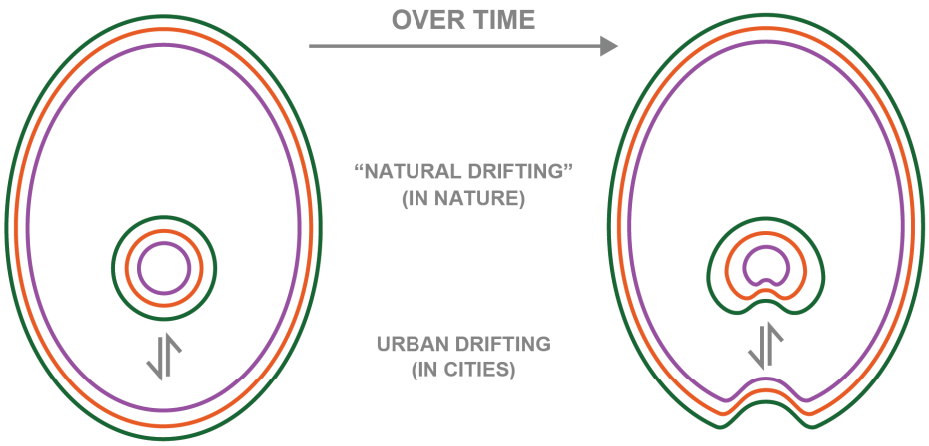


Image 107. *Maturana's "natural drifting" adapted for Desirable Cities' urban drifting.*

This concept critically extends into social cognition and communication. Davila and Maturana illustrate how verbal and nonverbal language is a medium through which structural coupling is maintained. In this view, the recurrent interactions that characterise human communication generate shared meanings and enable social cohesion, challenging reductionist models that isolate individual cognition from contextual influences (Davila and Maturana 2013, 97–103; Maturana and Verden- Zöller 2012, 26–34, 112–16). Empirical studies further support this notion; research on nonverbal synchrony

demonstrates that coordinated bodily responses during interpersonal exchanges foster emotional connections and facilitate effective group communication (Ramseyer and Tschacher 2011, 284–95; Tschacher et al. 2014, 2– 4). See *Image 107*: *Maturana's "natural drifting" adapted for Desirable Cities' urban drifting.*

Furthermore, evaluating "*structural coupling*" requires considering factors such as the frequency, intensity, multiplicity, and duration of interactions, as noted by Hayles (Hayles 1999, 8–10). These metrics provide an evaluative framework for understanding how repeated and varied interactions contribute to the co-evolution of the organism and its environment, which also aligns with social network theory (Granovetter 1973, 1360–75). Philosophically, the concept resonates with phenomenological perspectives, such as those of Heidegger and Merleau-Ponty, which argue that cognition is embodied and intrinsically linked to people's lived experience (Heidegger 1988, 78–91; Merleau-Ponty 2012, 77–84). This reinforces the idea that structural coupling offers a critical lens for exploring the nature of consciousness and agency, extending its relevance beyond biological systems into social and cultural life domains.

In urban studies, the implications of structural coupling are particularly significant. As dynamic ecosystems, cities are continuously shaped by the interplay between their inhabitants' *natural*, *cultural* and *constructural* inputs. Structural coupling demonstrates that city stakeholders are not merely passive recipients of environmental influences but actively shape and are shaped by their urban environments as a whole (*natural*, *cultural* and *constructural*). This reciprocal process underscores the potential for urban environments to co-evolve with their communities, thereby offering a theoretical basis for developing *holistic* cities that foster Earth's ecological balance, social well-being, and thriving urban spaces.

This provides valuable insights for creating urban environments that are sustainable and that promote social well-being, reinforcing the central principle of the *Desirable Cities'* framework, where harmonising *natural*, *cultural* and *constructural* systems is essential for urban spaces' long-term vitality and *desirability*.

14.5. Maturana's concept of "*biology of love*"

In Maturana's lexicon, love is not a sentiment but a biological-relational domain: the acceptance of the other as a legitimate other in coexistence (Maturana and Verden-Zöller 2012, 62–63). In that domain, coordination of behaviour (language) and the emotional flow (emotion) make social life and learning possible; outside it (e.g., distrust/control),

autonomy and reflection shrink (Maturana and Davila 2006, 30–31, 36–38). These definitions anchor the claim that love is constitutive, not ornamental, to human well-being (Maturana and Verden-Zöller 2017, 62–63; Maturana and Davila 2006).

Across his later works, Maturana reframes human lineage as "*Homo sapiens-amans*", arguing that humanness arises in a history of mutual care and cooperative child-rearing; the "*biology of trust*" is therefore a precondition for ethical life (Maturana and Verden-Zöller 2012, 199–201, 223–26). This also explains why environments that negate love (systemic mistrust, humiliation, fear) degrade learning and conviviality (Maturana and Davila 2006, 30–31, 36–38). Maturana and Davila state plainly: "*the biology of loving underpins bodily and psychic well-being*" and living-together in love sustains social life (Maturana and Davila 2003, 127). The same nexus appears throughout Amor y juego, where acceptance of the other as a legitimate other is the condition for healthy development, learning, and democratic coexistence (Maturana and Verden-Zöller 2017, 9–11, 62–63, 101–2, 154).

Davila co-develops with Maturana a practical orientation that links the biology of knowing and loving to everyday change and work and articulates "*liberating conversations*" as a method to surface where love has been culturally negated and how to restore it (Maturana and Davila 2016, 1–4, 5–6). In the Origin of Humanness prefatory material, Maturana explicitly credits Davila with the insight that much suffering presented in counselling is pain from negations of love that are culturally normalised, an observation that guides practical intervention (Maturana and Verden- Zöller 2012, xxvi–xxvii).

Thus, urban environments that institutionalise trust, recognition, and non- humiliating encounters better sustain well-being and civic reflection, therefore, "*living in love*" is not just private morality but a public design problem (Maturana and Davila 2006, 36–38; Maturana and Verden-Zöller 2012, 199–226), in which cooperation, love/altruism, and ethical life are emergent properties in living systems (Capra and Luisi 2014, 379–81).

14.6. Maturana's theory alignment with Peirce's *Pragmaticism*

Maturana's theories about the biology of cognition and Peirce's *Pragmaticism* paradigm of permanent semiosis converge on a processual, relational account of meaning and inquiry. As living systems, people are operationally closed, yet structurally coupled organisms, that bring forth their cognitive domain through a history of mutually conserving interactions with their "*habitable niche*". These permanent interactions are performed through the permanent process of semiosis. Environmental "*perturbations*" do

not import information, but trigger structure-determined changes in living systems over time (Maturana 2002, 17, 25). In this history, *language* names a recursive "*coordination of coordination of action*" that constitutes the human social world, and the emotional domain, including acceptance of the other in coexistence, opens and sustains the consensual space in which such coordination becomes possible (Maturana 2002, 33; Maturana and Verden-Zöller 1996, 119–27). Peirce's triadic semiosis likewise treats signs as irreducibly relational (*object* – *representamen* – *interpretant*) and ties conceptual meaning to the ensemble of a concept's conceivable practical effects (Peirce 1960c, 281–302; 1960d, 388–410; 2001, 4–10; 2008, 124–41).

Methodologically, Peirce's *abduction* or the inferential leap that proposes a plausible explanatory hypothesis in response to surprising facts, complements Maturana's emphasis on history dependent coupling by formalising how new interpretants are ventured and then disciplined within inquiry (Peirce 1960d, 180–212; 2001, 226–41). Taken together, these frameworks suggest a coherent paradigm for *Desirable Cities*: urban meaning and value arise in ongoing coordination of action and interpretation, which are articulated through signs rather than pure imported representations, and these are corrected over time by the practical consequences of shared hypotheses about how people should live in common (Maturana 2002, 17, 33; Peirce 1960d, 388–410; 2008, 124–41). Therefore, Maturana's *autopoiesis-cognition- drifting* can be seen as a *biological semiosis* wherein the organism's structural responses *interpret* environmental *representamen* as signifiers relevant to self- maintenance (Capra and Luisi 2014, 254–58; Hoffmeyer 2008, 149–66). Both theories emphasise the ongoing creation of meaning, with Maturana grounding it in living systems' internal processes and Peirce analysing it from an ontological, epistemological and methodological standpoint. Their convergence enriches the *Desirable Cities*' framework by suggesting that urban phenomena are not just physical structures, but processes shaped by human co-definition, with the interplay of environment, society, and individual well-being.

14.7. Perception for life: Conclusions for Desirable Cities' articulation of perception and culture

Maturana's biologically oriented theories and the broader understanding of human perception demonstrate that perception is not a passive mirror but an active, life-sustaining engagement, which is part of the "*natural drifting*". From the dominance of vision in human cognition to the self-creating character of autopoietic systems, people co-define their environments in an ongoing, reciprocal process. Urban survival and flourishing thus

hinge on acknowledging how city stakeholders consciously and unconsciously shape, and are shaped by, the city's ecology, social structures, and emotional climates in an *urban drift*. This theoretical insight underpins *Desirable Cities*' emphasis on multi-layered engagement with *nature*, *culture* and *built* forms, viewing them as facets of a dynamic *urban drifting* that can foster balanced ecosystems, healthy societies and *desirable* cities.

This demonstrates why researchers observed that specific environmental attributes like street width, building height, and greenery influence people's satisfaction and valuation of urban spaces (Ewing and Handy 2009, 66–73; Stamps 2005, 107– 12). The presence or absence of natural elements, architectural coherence, and navigational clarity all shape the psychological impacts of urban living (Ellard 2015, 31). Aligning urban features with these perceptual tendencies is crucial for fostering well-being. Indeed, the interplay of physical elements and psychological responses underscores that "liveability" emerges from infrastructural services and how people subjectively process their city environment while preserving the biological-ecological conditions for life.

Therefore, how individuals perceive urban environments is central to effective urban design. Perception here encompasses the subjective and intersubjective experience of city environments (*natural*, *cultural* and *constructural*), shaped by Earth's environment and city stakeholders through sensory inputs.

14.8. Understanding people's *desires*

Desirability in urban contexts reflects the qualities that render a city appealing to all the city stakeholders. It must integrate a spectrum of *natural*, *cultural*, and *constructural* environmental components that merge into experiential aspirations linked to an assumed satisfaction. Some urban studies highlighted factors like standard income, cost of living, commute times, low crime, education, healthcare, climate, and community well-being influencing urban attractiveness (Glaeser et al. 2001, 27–30; OECD 2014, 17–24). Satisfying these conditions can raise a city's score on liveability, while additional cultural or aesthetic virtues elevate it further. Similar urban studies indicate that people favour visually coherent surroundings, cities that appear comprehensible and aesthetically pleasing (Ewing and Handy 2009, 27–30; Nasar 1998, 27–31); for example, green spaces are a core predictor of human well- being, and therefore, these features increase a city's charm (Ulrich et al. 1991, 201– 30). All these conditions are linked to the *urban drifting* that *Desirable Cities* draws from Maturana's "*natural drifting*", in which the visual environmental perception of the city is dominant and influential. Therefore, from cities'

macro-level atmosphere to urban micro-level details, *desirability* interlinks diverse factors that inform how city stakeholders want to experience their city, which is connected to their cities' imageries driven by conscious or unconscious *desires*.

14.9. The emergence of *desires*: Analysis of Lacan's studies on desire

14.9.1. Lacan's *Mirror Stage* theory

To approach Lacan's account of the *Mirror Stage*, it helps to imagine the conditions of early infants. In utero, infants' physiological needs are met through the mother's body; birth disrupts that *fulfilled-completed* state: feeding is no longer automatic, thermal and acoustic buffers fall away, and the newborn encounters hunger, sensory overload, fatigue, and the novel experiences of digestion, urination, and defecation, all which are sensations of struggle and loss of part of their body's composition (Asakura 2004, 360–61; Frank 1945; Ronca et al. 1996; Verklan 2002). Therefore, infants begin life as highly dependent organisms whose survival and self- regulation are scaffolded by caregivers, with whom they form an intensely responsive bond (Gunnar and Quevedo 2007, 157–59; Winberg 2005).

At the same time, infants do not possess a ready-made "map" of their body or a language to communicate. Early perception offers fragmented body sensations and views, like hands, feet, breathing rhythms and movement, while a unified sense of themselves is still in formation. Lacan proposes that a first image of unity emerges by identifying themselves with an external image, a "*specular image*", supplied by mirrors in the literal sense or, more commonly, by *mirroring* the caregiver's body, gestures, and feedback. This jubilant *identification* is fundamentally *imaginary:* It gathers dispersed bodily sensations into the form of a whole self that inaugurates the ego (Lacan 2006, 75–81). This process, often between six and eighteen months, has structural significance for humans' psychosocial formation.

Lacan defines this *Mirror Stage* as "*the transformation that takes place in the subject when he assumes an image*" (Lacan 2006, 76). In that moment of "*jubilant assumption*," the infant identifies with that "*specular image*" called "*i(a)*" or "*ideal - ego*", which is the starting point for forming a personality: "*by which he must resolve, as I, his discordance with his own reality*", until "*the specular I turns into the social I*" in later stages belong to the *symbolic* (Lacan 2006, 75–79, 684–85).

Lacan describes this formation as "*a particular case of the function of imagos, which is to establish a relationship between an organism and its reality,"* However, this image is borrowed and precarious. He stresses that the *Mirror Stage* is a "*drama whose internal thrust is precipitated from insufficiency to anticipation*". The infant adopts an "*orthopaedic*" (corrective) image of wholeness *before* the body is actually coordinated. This borrowed form becomes "*the finally donned armor of an alienating identity that will mark his entire mental development"* (Lacan 2006, 78). From this point on, People's knowledge of themselves becomes mediated by "*Others" ("A")*. As Lacan states, "*this moment decisively tips the whole of human knowledge into being mediated by the other's desire*" (Lacan 2006, 79). These reflections ground Lacan's understanding of *desire*.

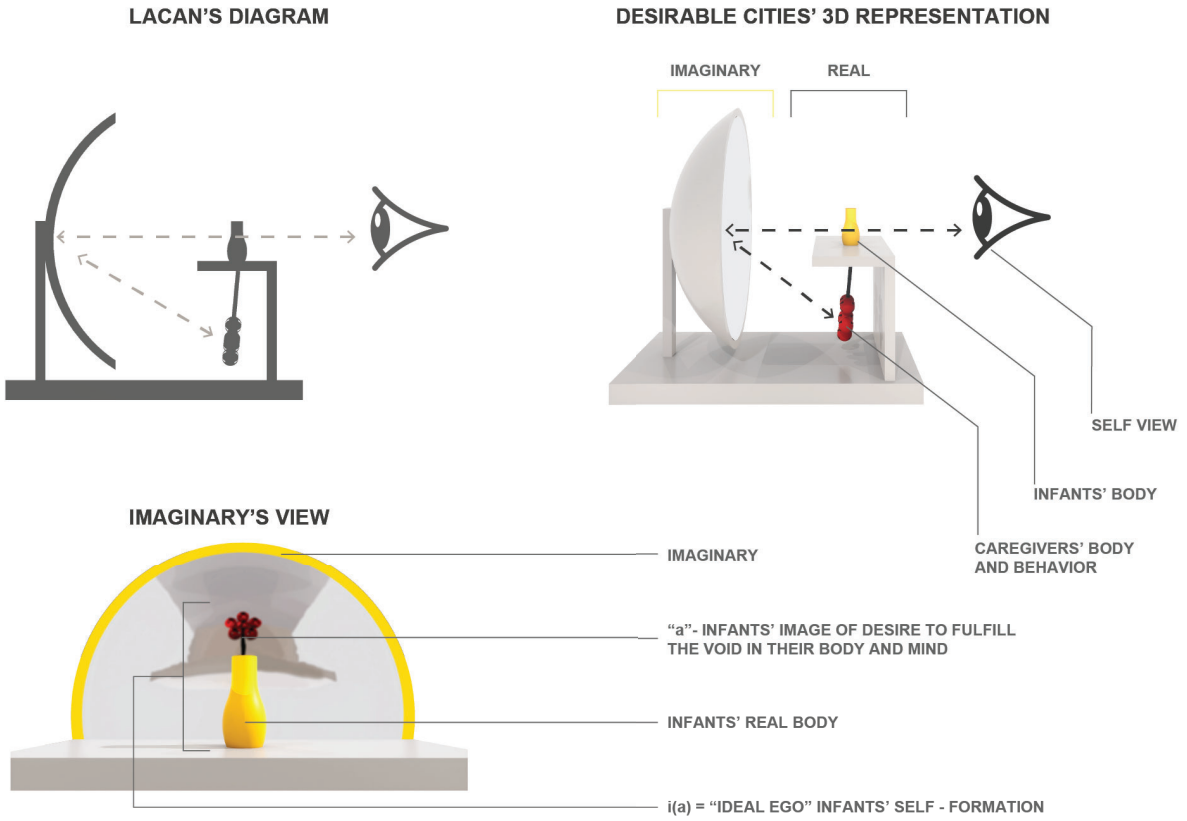


Image 108. *Lacan's optical diagram and Desirable Cities' 3D model of Lacan's Mirror Stage representation.*

Lacan visualises these relations with the "*inverted bouquet*" optical schema, which he drew from physicist Henri Bouasse (Lacan 2006, 563–72). The schema shows a concave mirror, an empty vase on a platform, and a bouquet of flowers, placed inverted below the platform, opposite the vase. From the angle of aligning the empty vase with the concave mirror in the background, the mirror projects the image of the flowers, from the *other*-side of the platform, into the illusion that the empty vase appears perfectly filled with the flowers. See *Image 108*: *Lacan's optical diagram and Desirable Cities' 3D model of Lacan's Mirror Stage representation*. In Lacan's example, the empty vase

represents the infant's real body; the optical projection figures *the mirroring process* by which the infant adapts to the postnatal social environment and adopts a unified image. At the same time, the caregiver or "*Others" ("A")* (represented by the real flowers) exists as a separate entity (represented by its opposition) but in the same space (represented by the same platform), providing the "image" that the infant identifies with. The concave mirror itself represents the imaginary function, the mechanism of reflection and illusion. The resulting optical illusion, the image of the flowers *in* the vase, is the *"ideal-ego" or "i(a)":* a "fulfilled- completed" self-image that is fundamentally an illusion.

Lacan explains, together with this diagram, that the infant "*accommodate[s] his own image around what appears, the petit a*". The apparent floral "filling" models how people try to complete what they feel is missing by taking up images from others. The illusion of completion (represented by the apparent flower's fulfilment of the empty vase) is what Lacan calls "*little a*" or "*a*", elusive object-cause of desire, an ungraspable object, which promises to fill the void (the void represented by the empty vase) but "*a*" never does, because even if it seems to be "fulfilled-*completed*" the image in the mirror will never be grasped (Lacan 2004, 159). Thus, the concave mirror stands for the "*imaginary*" dimension that allows the self-formation.

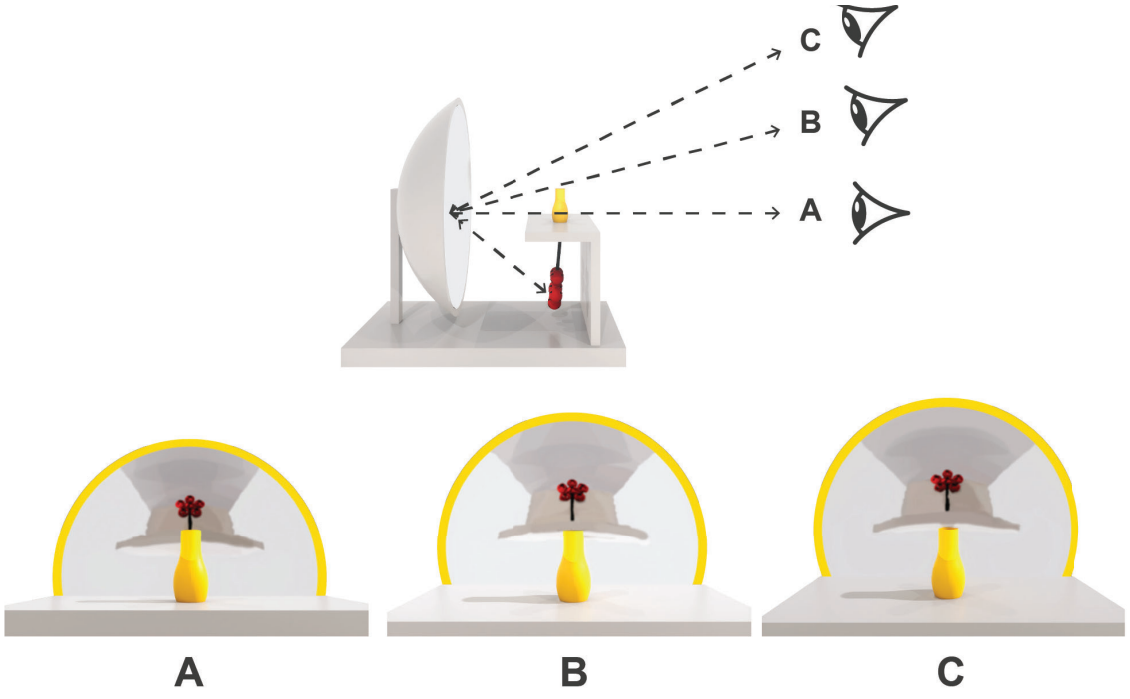


Image 109. *Desirable Cities 3D model of Lacan's Mirror Stage scenarios.*

However, Infants' self-formation or self-positioning towards their environments is unpredictable and diverse (represented by shifts in the observer angle), which generates multiple degrees of *imaginaries* (represented by multiple degrees of alignment or misalignment of the empty vase with the imaginary flowers). These different gradations of

self-image, from completion to fragmentation, represent infants' (and people's) success or struggles to fit into society, including clinical pathologies that Lacan treated, and from which he developed his theory. See *Image 109*: *Desirable Cities' 3D model of Lacan's Mirror Stage scenarios.*

Besides the "*imaginary*" dimension of the *Mirror Stage*, the optical schema also stages the *Real* (the empty vase and the opposite flowers on the platform) and their relation through images (perceptions). Much as in Peirce, the object (*Real*) is linked to the "*interpretant*" (*imaginary*) through the "representamen" (perceptions). Lacan calls these images "*Signifiers*", whereas Peirce calls them "*Signs*". Within the *Mirror State*, the Infants collect *Signifiers* of the environment and their own body (represented by the alignment that correlates environmental references to the self-image, aiming for a "*match*"). However, there is a telltale texture difference: the *real* vase is crisp while the *illusory* fulfilment of flowers is slightly off-texture. In simple terms, people's "*me*" always bears a seam between bodily reality and the borrowed *imaginary* from their environment, the relationship *Real-imaginary*.

In these *mirroring* stages, as infants naturally grow, they go through different processes of interaction and becoming part of their social environment, akin to Maturana's theories of "*habitable niche*", "*natural drifting*" and "*biology of love*". Lacan defines the stages of the *Mirror Stage* as *specular image*, *Jubilant assumption*, and *symbolic confirmation*. To explain the *symbolic confirmation* Lacan draws from Freud's work and reframing the "*Oedipus complex*".

Lacan explains how these "*imaginary*" self-formations of the growing infants through the interaction with their caregivers (represented in the *Oedipus Complex* by the figure of the "*mother*") stand for joy and satisfaction ("*Jouissance*"). Within the *imaginary* order (that only follows the rules of the person who imagined it), the fragile and dependent infants see in their "*mothers*" or caregivers an ideal image of union, serving all the needs and desires that infants have (fulfilling-completing). However, as infants grow into childhood and are integrated into society (including behavioural and social rules), a challenge to the idealised image of the infants emerges (represented by the figure of the "*father*") (Lacan 2006, 693–94). In this challenge, infants discover that their initial imaginary formation of joyful bonds with their caregiver is limited ("Castrated") by the caregiver's bonds with *Others* (and the norms of society). This "*Oedipus complex*" explanation is only symbolic, not a literal family drama. It formalises entry into the Law of language and culture (the *symbolic* Order).

These dual images of a person: the self-imaginary-identity versus the social-symbolic-identity, combined with the shifting of "Signifiers", first signifying joy by "Jouissance" in the imaginary, then signifying constraint by "Castrations" in the symbolic, set up the dichotomy of people's *conscious* and *unconscious* dimensions. For Lacan, the "*Signifiers*" are in control: "S/s" or "Signifiers" over "signified" (Lacan 2006, 412–41), which is the opposite of Saussure's theory, and the whole Descartes/Cartesian school of thoughts, where first there is a meaning or concept (*signified*), and from that meaning or concept, the *signifiers* provide the communication process (Saussure 2011, 65–70). In Lacan's theory, these meaning- shifting "Signifiers" command people's behaviour and, therefore, are the windows through which unconscious desires are revealed because, as he famously suggested, all languages, including the hidden language of the unconscious, are formed by metaphors and metonyms. This opens the possibility of deciphering it by identifying the emergence of these metaphors and metonyms within people's discourse. This will be addressed later in the following sections.

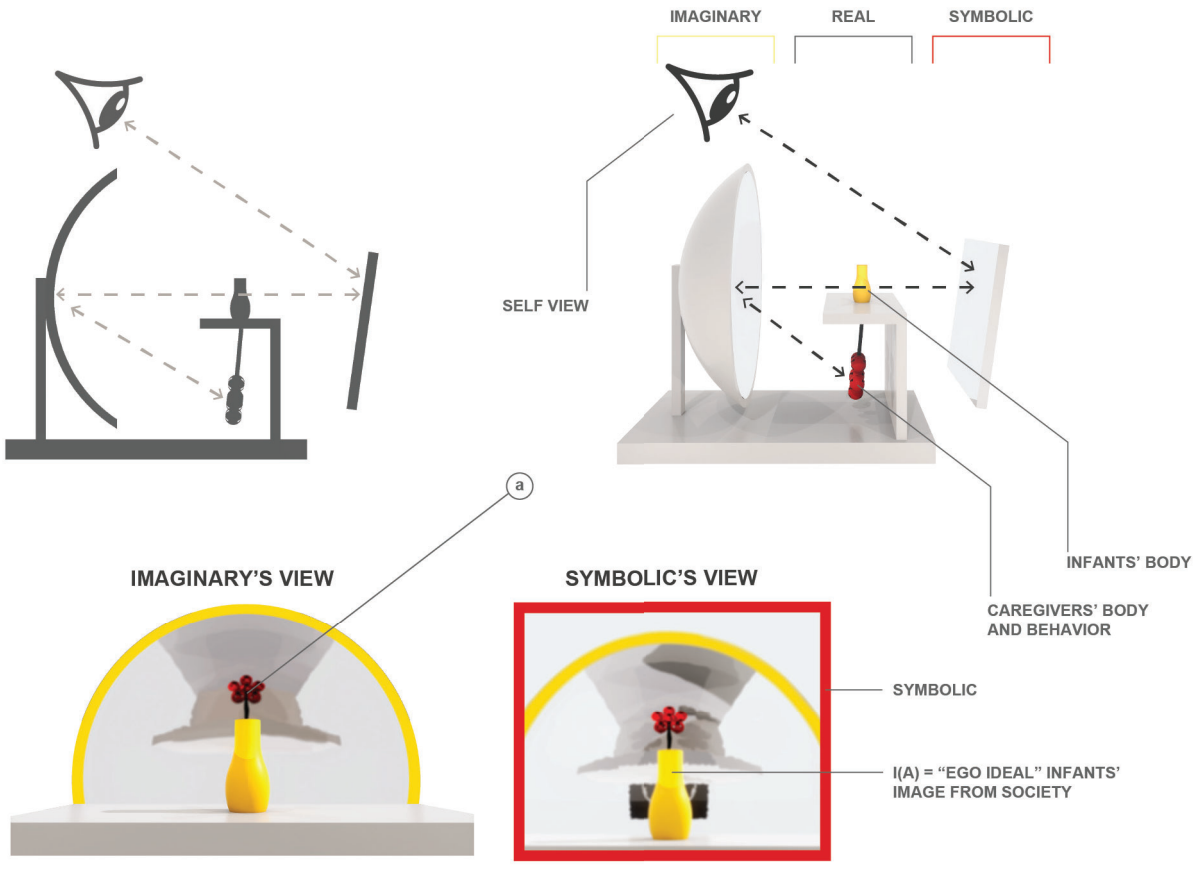


Image 110. *Desirable Cities' 3D model of Lacan's Mirror Stage - Real, imaginary and symbolic.*

The optical schema can also represent these complex relationships of the third stage and its many paths into the social world that contribute to diverse crystallisations of infants' self-formations into adulthood. The "correct" view, where the vase appears

full from another angle, validating the *imaginary* self-formation, is the *symbolic* order. The validation is provided by *Others*, stabilising the infants' self-images, from the social recognition. See *Image 110*: *Desirable Cities' 3D model of Lacan's Mirror Stage - Real, imaginary and symbolic*, allows the visualisation of the relationship *Real-imaginary-symbolic*.

In this new version of the optical example, a flat mirror is added representing the *symbolic order*: the social frame of language, rules, and shared categories that reflect back how one is seen by "*Others*". Lacan calls this new identity-reference "I(A)" or "*ego ideal*": Lacan explains that "*the ego ideal is that from which the subject will see himself, as one says, as others see him*", enabling support "*in a dual situation that is satisfactory for him from the point of view of love*" (Lacan 2004, 268).

The *symbolic order* catches the gaze and frames the relationship between the *Real* and the *imaginary* (Lacan 2004, 145). In other words, the symbolic order draws people's attention and sets the terms for how the Real and the imaginary appear. Moreover, because people, including caregivers, are social and shaped by language and culture, when infants project parts of their self-image from caregivers, their *imaginary* carries the imprint of the *symbolic order* from a historical-cultural perspective. Lacan's point is simple and profound: unity depends on relations and recognition; changing the mirrors makes people different.

With these optics of the *Real-imaginary-symbolic* relationships, Lacan is trying to represent people's conditions of subjectivity: The matching alignment represents the people who are coping with their society in a state of idealisation or fascination. The slight misalignment represents people experiencing strangeness in their lives. The marked misalignment represents people suffering fragmentation in clinical cases like aggressivity, schizophrenia, etc. This completes Lacan's fundamental relationship between the "*Real*", the "*imaginary*" (people's individual positioning towards their experiences), and the "*symbolic*" (the cultural pre-determinations provided to people by their society), establishing their communal interactions.

This triadic foundation (*Real-imaginary-symbolic*) is articulated by Lacan, in the form of a *Borromean Knot* in which the centre is "*a*" standing for "*little object a*" or the "*cause for desire*" (Evans 2006, 156–57; Lacan 2018, 57–58). This proposition of Lacan aligns with Peirce's *Pragmaticism*; as Peirce explains that "*desire is always more or less variable, or vague*" (Peirce 2001, 118). For Peirce this shifting condition of desire is connected to how people make sense of their environment (Peirce 2001, 47) and

themselves: "*He* (people) *makes in his imagination a sort of skeleton diagram, or outline sketch, of himself, considers what modifications the hypothetical state of things would require to be made in the picture*", adding to the explanation that "*to see whether the same ardent desire, is there to be discerned*" as "*it is a familiar experience to every human being to wish for something quite beyond his present means*", in its relationship with the "*abstractive observation*" (Peirce 1960c, 227–28). In other words, as desirable images of fulfilment or "a" articulates the Real, symbolic and imaginary in Lacan's theory, the *desirable* understanding of the environment and themselves, through *signs* or "*s*", allows people to articulate the *Object*, *representamen* and *interpretations* in Peirce's theory. See *Image 111*: *Lacan's Borromean Knot and Peirce's Phenomenological Triad.*

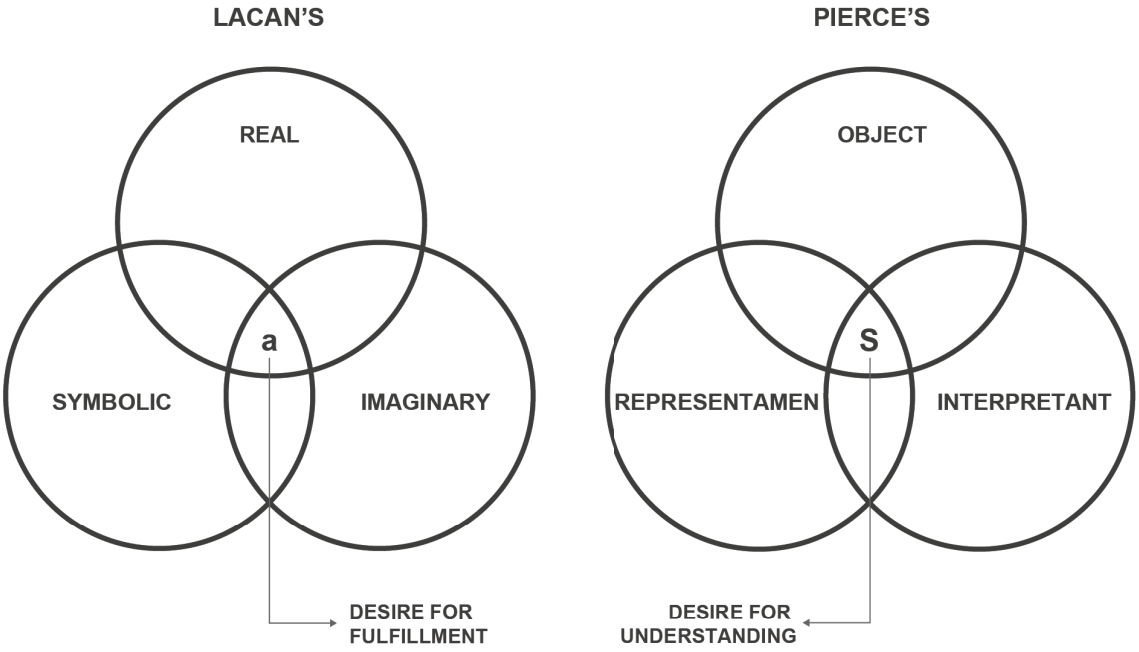


Image 111. *Lacan's Borromean Knot and Peirce's Phenomenological Triad.*

14.9.2. Lacan's graphs

Lacan's graphs illustrate the constant interplay between conscious and unconscious processes informing human behaviour. Structured along the "*Real*", "*imaginary*", and "*symbolic*" registers, the graph locates desire within the unconscious dimension structured by signifiers without meanings or, in Lacan's words, the graph shows "*where desire is situated in relation to a subject defined on the basis of his articulation by the signifiers*" (Lacan 2006, 681). The graph's primary vector from "*$ - I(A)*" weaves through intersections with the chain of signifiers in the conscious dimension ("*Signifier*" - "*Voice*" vector) and the unconscious dimension ("*Jouissance*" - "*Castration*" vector), mapping how the subject's everyday interactions with the symbolic "*Other*" structure the flow of

desire. See *Image 115: Lacan's graph.*

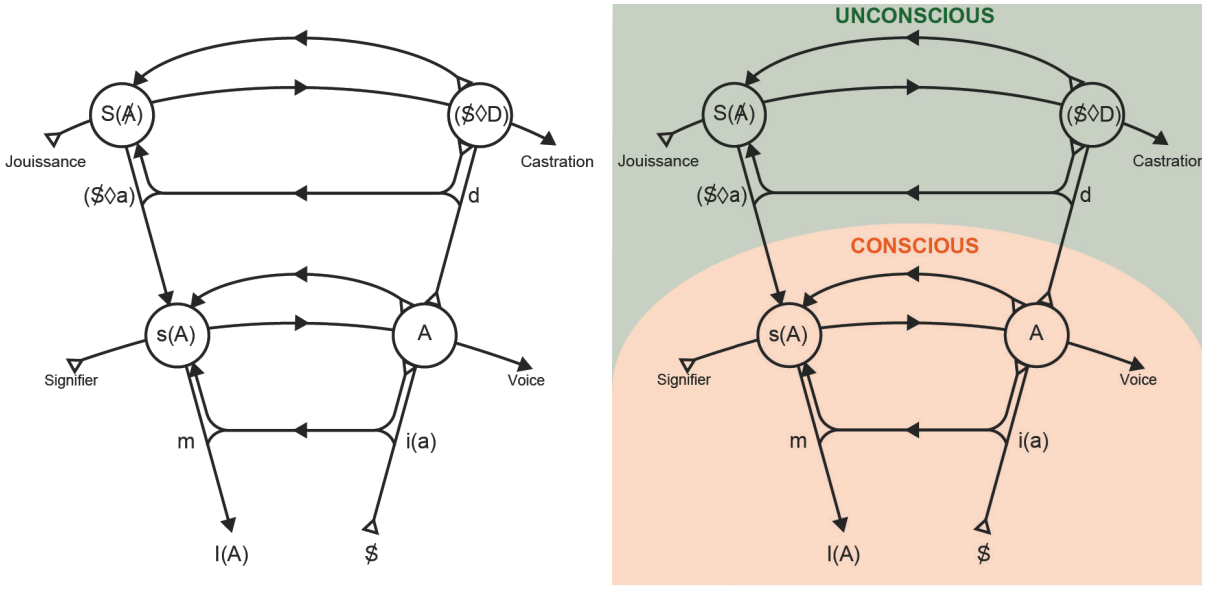


Image 112. *Lacan's graph.*

> "'*I must now lay out for you in much greater details the topology that I have developed in my teaching over the past few years, that is, introduce a certain graph, which, I should indicate, also serves purposes other than the one I have in mind here, having been constructed and perfected quite explicitly in order to map out on its different levels the most broadly practical structure of the data of analytic experience. It will serve here to show where desire is situated in relation to a subject defined on the basis of his articulation by the signifiers*." (Lacan 2006, 681).

14.9.3. People's conscious operations within Lacan's graphs

In the conscious dimension, the "*subject*" ("*$*"), as an embodied being of perception and language, navigates the "*symbolic*" order, illustrated by the vector of "*Signifier*" - "*Voice*", where the subject encounters and internalises the "*Other*" ("*A*"), representing the totality of cultural norms, laws, and language. Lacan asserts that "*A, is the locus of the treasure trove of signifiers, which does not mean a code, for the one-to-one correspondence between a sign and a thing is not preserved here*" (Lacan 2006, 682–83). Here, "*A*" encapsulates all possibilities and functions as the combinatory matrix whose inscriptions exhaustively enumerate potential meanings. At the same time, "*s(A)*" represents the punctuation where signification is finalised as a social product. Consequently, the chain of signifiers through the "*Signifier*" - "*Voice*" channel facilitates the subject's engagement with societal law and normativity. This process leads to the internalisation of meaning

through the articulation of the "*signified*" ("*s*") in conjunction with the "*Other*" ("*A*"), thereby constructing a coherent interpretation of language and culture within the Symbolic order. See *Image 113*: *Lacan's graph – conscious dimension*.

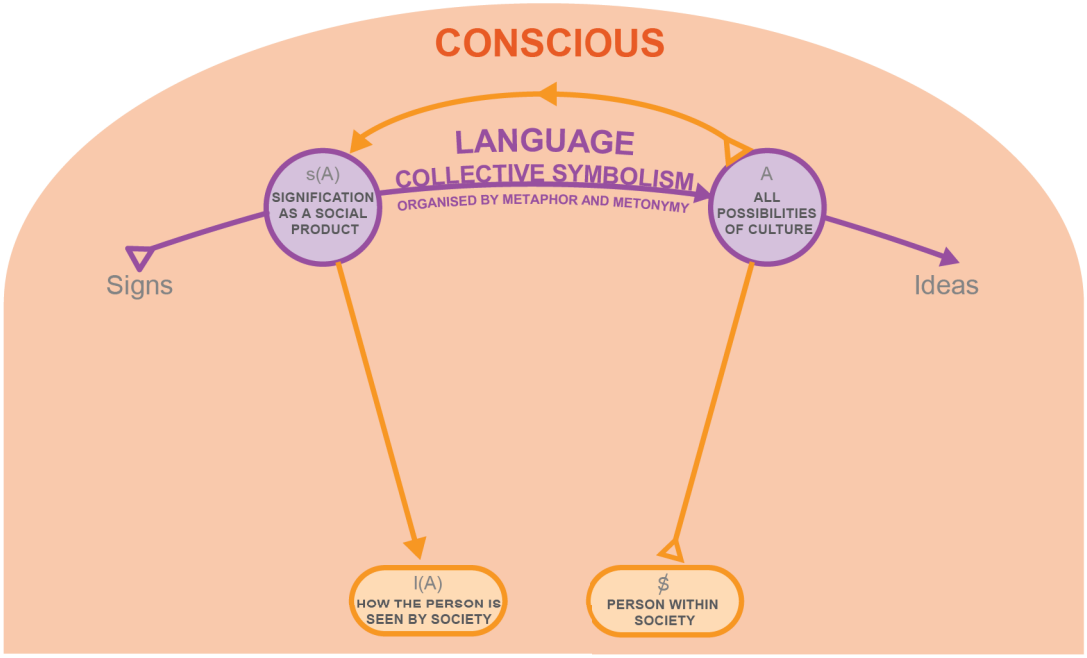


Image 113. *Lacan's graph – conscious dimension.*

The vector "*i(a) - m*" operates within the "*imaginary*" order and is rooted in the mirror stage, which is a formative period when infants first recognise their image through the "*mirror*" (mirror or other people). Lacan describes this phenomenon as "*the image of one's body in the mirror is the most evanescent of objects*" (Lacan, 2006, p. 55). This imaginative process is critical in establishing the "*ego*" ("*m*"), as individuals project and articulate their self-image through external signifiers, positioning themselves within society. The synthesis of the "imaginary" order with the "symbolic" order gives rise to the "*Ego-Ideal*", "*I(A)*", which serves as an aspirational version of the self, grounded in societal expectations (Lacan 2004, 268; 2006, 66–67). Lacan further explicates that "*the unary trait which – filling in the invisible mark the subject receives from the signifier – alienates this subject in the first identifications that form the ego-ideal*" (Lacan 2006, 684). See *Image 114*: *Lacan's graph - mirroring at the conscious dimension*.

This dual circuitry, where the "*symbolic*" order governs the internalisation of *cultural* signifiers and the "imaginary" order shapes self-recognition, enables people to establish a conscious identity within a broader social matrix. By traversing these intersecting orders,

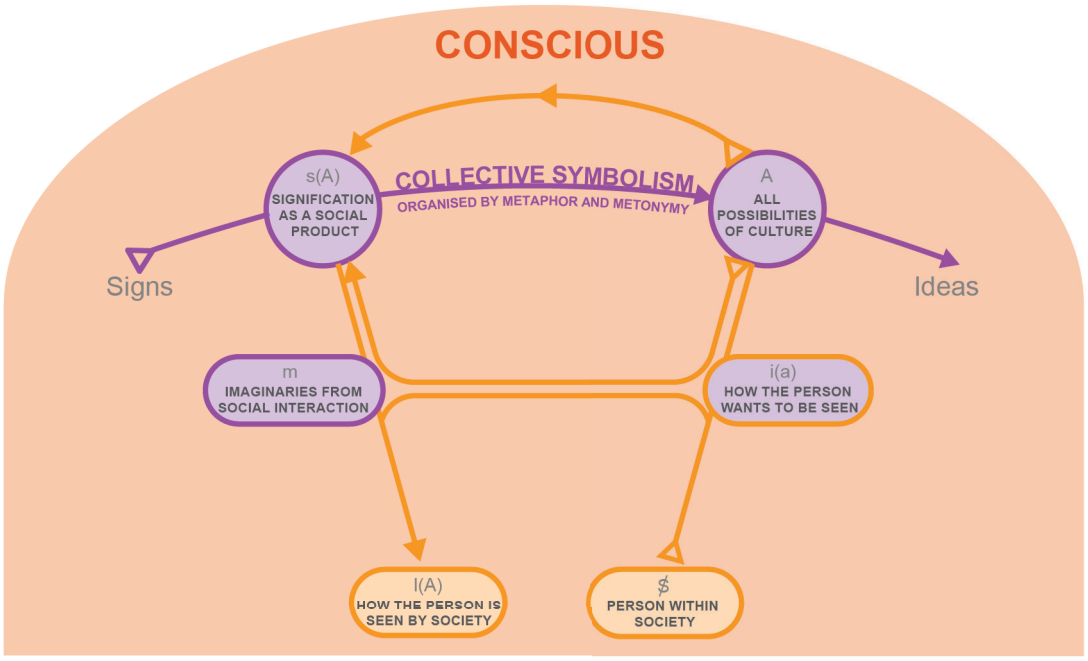


Image 114. *Lacan's graph - mirroring at the conscious dimension.*

people not only construct an identity that is both singular and socially mediated but also continuously negotiate the tensions between individual desire and collective norms. This negotiation is central to Lacan's theory, which posits that identity and desire are never fully reconciled; instead, they are perpetually changing as "*signifiers*" ("*S*") evolve and new meanings emerge. In this light, the conscious operations of people, as mapped on Lacan's graph, reveal the dynamic interplay between internalised social structures and the individual's self-construction. The ongoing process of signification, where signifiers are adopted, adapted, and sometimes contested, illustrates the inherent instability of the self within the "symbolic" order, reinforcing the notion that identity is always in a state of becoming rather than being fixed. Thus, city stakeholders continually engage with *natural*, *cultural*, and *constructural* components of the environment through signifiers identified by their urban imageries (including their urban language), to make sense of their city's spaces and positioning themselves within that urban environment through their expectations for desirable urban experiences.

14.9.4. People's unconscious operations within Lacan's graphs

Parallel to the conscious circuit, the unconscious dimension in Lacan's graph governs people's desires through signifiers that lack standard social meanings, instead being

articulated from individual past experiences. This dual registration arises because the psyche is built in strata. Long before people master language, a pre- social "human" layer is already mapping the environment, imprinting affect-laden traces whose internal grammar cannot be consciously read. As people grow into a community, education and shared symbols lay a second, culturally organised record over the first, creating the conscious circuit with a chain of signifiers that society can explain and defend. This process is like a camera that exposes the same frame in two negatives simultaneously. The first negative (unconscious circuit) preserves the raw scene or, in Lacan's terms, the imaginary; the second (conscious circuit) imprints socially legible significations or, in Lacan's terms, the *symbolic*. Most of the time, the two exposures cooperate. Still, when the underlying picture leaks through (whether in a flash of anger, an unbidden fantasy, or a slip of the tongue), people glimpse how the original register continues to steer behaviour even against the expectations of the cultivated one. See *Image 115*: *Integrated diagram - the double recording of signifiers*.

This unconscious section of the graph works as a mirror of the conscious section explained above. Here, the "*Jouissance*" - "*Castration*" vector epitomises the inherent tension between pleasure, "*jouissance*", and the inevitable limitations imposed by

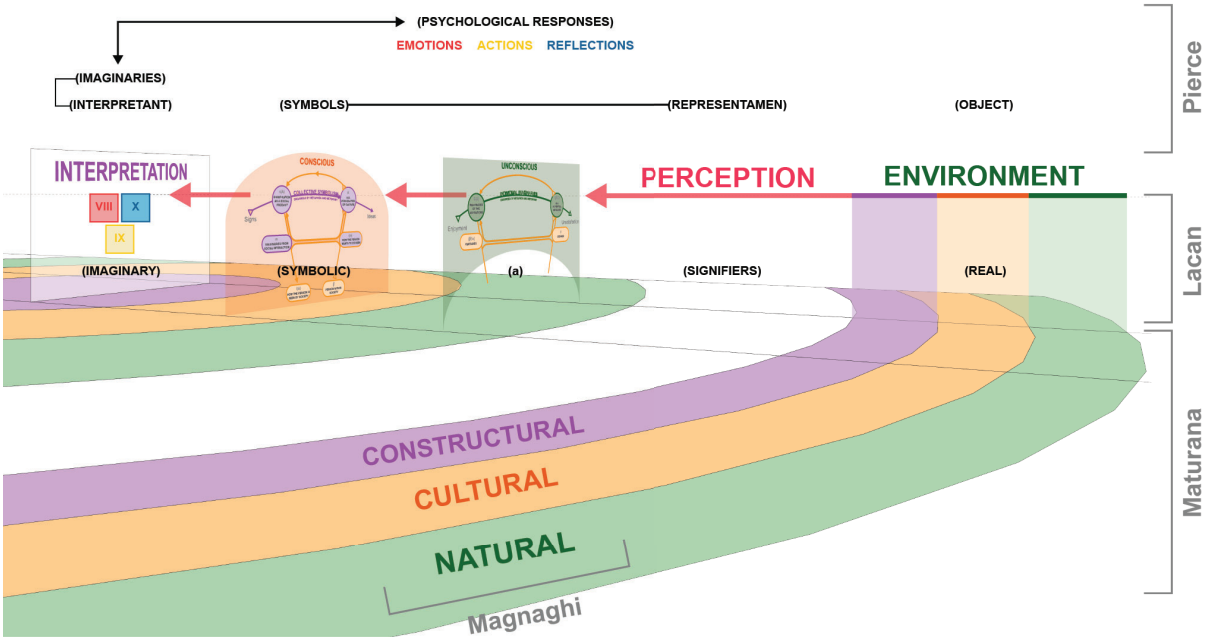


Image 115. *Integrated diagram – the double recording of signifiers.*

reality and social norms, "*castration*" (Lacan 2006, 53). In this circuit, people's inner demands "*($<>D)*" are articulated as a "*treasure trove of signifiers*" that, when linked diachronically (through time), get transformed into a residual form of demand once the people's presence draws back (Lacan 2006, 692). Unlike the conscious circuit, which processes signifiers through the "*symbolic*" order (the chain of signifiers that defines

language and culture), the unconscious circuit operates through signifiers connected to personal satisfactions ("*jouissance*") and frustrations ("*castration*") in dynamics that are less predictable as are not mediated by collective social structures. However, as Lacan explained, "*the unconscious is governed*" by the "*effects of language, namely metaphor and metonymy*", continuing this analysis by saying that "*the effects of the substitution and combination of signifiers in the synchronic and diachronic dimensions, respectively, in which they appear in discourse*", open the door for the interpretation of the unconscious desires (Lacan 2006, 676–77). See *Image 116: Lacan's graph – mirror circuits superposition*.

This "*Signifiers*" in the unconscious domain, marked by "*S(Ⱥ)*" which denote the "*lack*" of structure inherent in the "*Other*" (represented by "*Ⱥ*"), serve as provisional objectifications of desire, or the mirroring unconscious dimension of "*s(A)*" that instead of

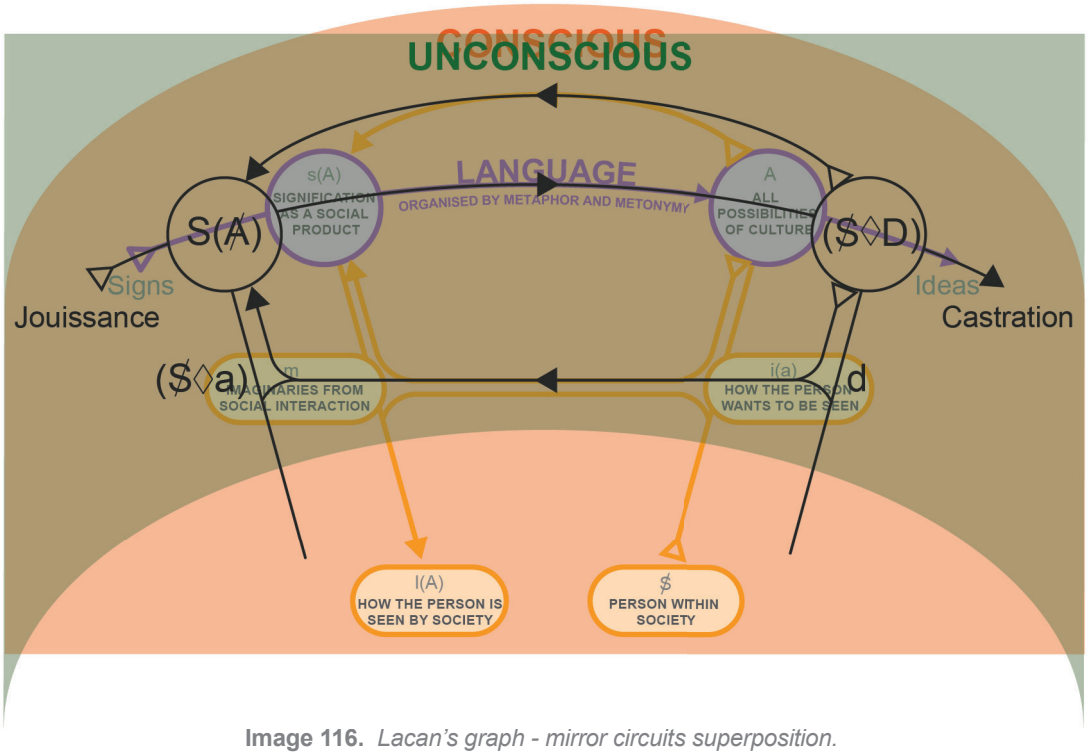


Image 116. *Lacan's graph - mirror circuits superposition.*

providing signification as a social product, provide a glimpse of the desires' significations. Lacan notes that "*jouissance is prohibited [interdit] to whoever speaks, as such... it can only be said [dit] between the lines by whoever is the subject of the Law*" (Lacan 2006, 696), emphasising that desire functions as a defence against the transgression of these prohibitions (Lacan 2006, 699). Moreover, the resulting formulation of "*S*" ("*Signifiers*" without standard significations) in the unconscious over "*s*" ("*signified*") as conscious social processes *("S/s*") illustrates that the individual "*Signifiers*" are in a dominant

position over the conscious process of making meaning as an effort to be part of a community providing social boundaries in both signification and control of behaviour. This disjunction between "*Signifiers*", which are floating in the singular unconscious, and "*signifieds*", which are standardised by the conscious collective social operations, breaks away from Saussure's proposition ("*signified / signifier*"), which is the foundation of the Cartesian philosophy (Saussure 2011, 65– 70), but aligns with Peirce's notion that the "*representamen*" are the "*first correlations*" and cannot fully capture the entire relationship with its object, leaving interpretations as a "*third correlate*" (Peirce 2008, 249; 1960c, 235–37). See *Image 117*: *Lacan's graph – unconscious dimensions*.

Thus, in the clinic context of psychoanalysis, the structure of the unconscious circuit accounts for the seemingly irrational or contradictory behaviours observed in people, like paranoia and schizophrenia, which can also be observed within the urban environment.

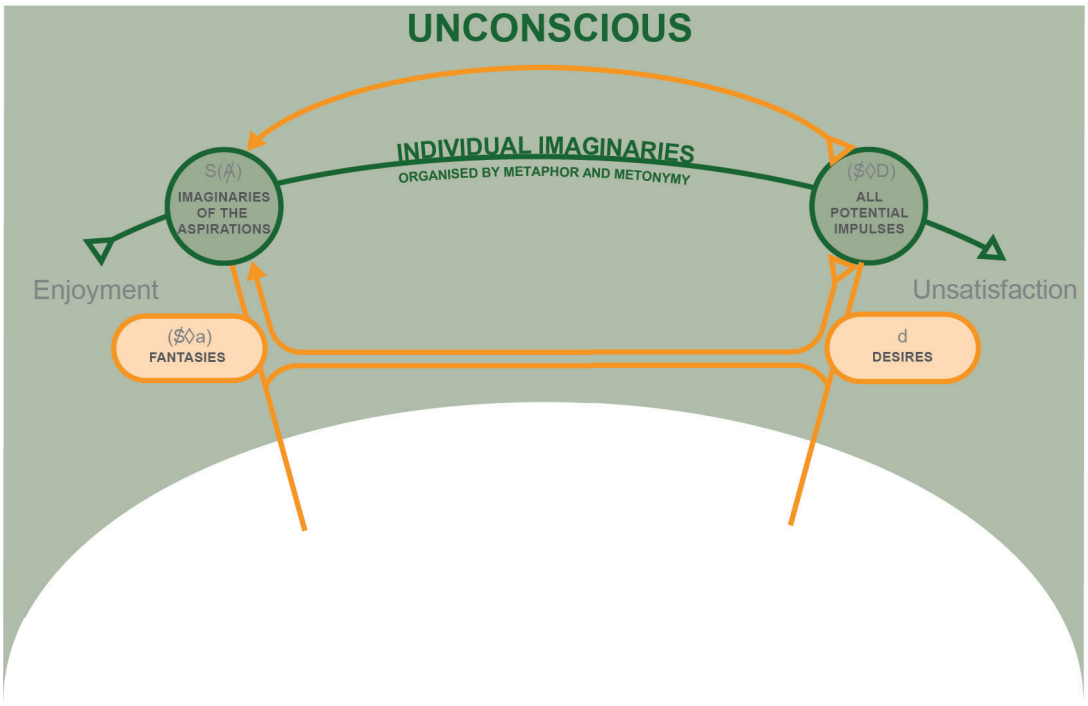


Image 117. *Lacan's graph - unconscious dimensions.*

However, moving away from clinical cases toward more everyday life procedures, the conscious circuit maps deliberate internalisation of societal norms, and the unconscious circuit reveals the deeper, often unacknowledged dynamics that drive people's desires. Lacan's assertion that "*as a characteristic of an animal at the mercy of language, man's desire is the Other's desire*" (Lacan 2006, 525) underscores how influential the collective social behaviour is on individuals. In urban settings, this dual process explains why city stakeholders might pursue aspirations profoundly shaped by the interplay of their singular experiences with cultural symbolism and desires that are elusive and of a mirroring nature.

Consequently, understanding these unconscious operations is critical for the *Desirable Cities*' framework, as it informs how urban environments can be designed to resonate with both the evident and the underlying dimensions of city stakeholders.

14.9.5. Lacan's reflections on metaphors and metonyms

Lacan's psychoanalytic theory offers a transformative reappraisal of metaphor and metonymy (De Schutter 1983). For Lacan, metaphor and metonymy serve as fundamental operations that not only organise the symbolic order but also delineate the processes by which subjectivity is formed within the links of signifiers at the unconscious dimension ("*jouissance*" - "*castration*"), as this is how the brain creates links with signifiers. Lacan's discussion of the mirror stage, for example, employs metaphor to elucidate the constitution of the self, whereby the image in the mirror symbolically inaugurates the infant's self-concept (Lacan 2006, 97–98). Metaphor is understood as a process of substitution, transforming and repressing some aspects of experience, while metonymy captures the process of displacement and the perpetual deferral of complete signification, as encapsulated in his observation that "*the enigmatic signifier ... comes to replace in a current signifying chain, a spark flies that fixes in a symptom ... the signification, that is inaccessible to the conscious subject*" (Lacan 2006, 518–19).

Moreover, Lacan posits that the very structure of people is metaphorical in nature (Swales 2018). He suggests that people are constructed through a chain of signifiers whereby creative metaphorical associations enable identity formation. This perspective is further supported by findings associating metaphorical thinking with healthy mental functioning and imaginative transformation, whereas metonymy is often linked to neurotic defence mechanisms (Borbely 2004), however, for urban studies it is better to understand it as the engine of desire itself. Consequently, the dominant role of signifiers in shaping meaning underpins the collective narratives that characterise urban environments. In cities, metaphors and metonymical associations contribute to a communal understanding of urban life, shaping appropriations and desires (Inkol 2023; Matheson 2019; Negrete 2022).

As Lacan explained, the metaphor operates as "*substitution*" of one signifier for another, while the metonymy operates as "*combination*" or link of one signifier to another. For example, on a rainy day, someone seating under the canopy of a park's pavilion may associate the experience (the sound of the rain, the freshness in the air, and the scenery of the raining with the misty buildings in the background), with a metaphor of a romantic

moment, here the rain became a metaphor of (or "*substitute*" for) romantic; however, another person who is crossing the park to go to work may recall the metonymic link between umbrella and rain, and quickly search in the bag for an umbrella, here the same rain emerge as metonymy (or "*combination*") to umbrella. Lacan is interested in the "*synchronic*" metaphors or "*substitution*" of "*signifiers*" for others that "*appear*" within people's "*discourse*" as manifestations of their unconscious desires (Lacan 2006, 676–77).

This psychoanalytic method for understanding people's unconscious pathologies also offers an ethnographic approach to elicit the formation of desirable urban experiences within the dynamics of public discourse. By extracting and identifying the metaphorical link of the imageries that city stakeholders have of their urban experiences within the "*symbolic*" order, it is possible to reveal how urban spaces and experiences are unconsciously tagged or imprinted with meanings that reflect and shape the collective psyche of urban phenomena.

14.9.6. Lacan's conceptual alignment with Peirce

Lacan's assertion that "*the signifier represents the subject for another signifier*" (Lacan 2006, 694), implies that subjectivity emerges from an endless interplay of signifiers rather than from any fixed, intrinsic essence, which resonates deeply with Peirce's theory of infinite semiosis, in which people "*are a sign that develops in a community with other signs"* (McNabb 2018, 62). When Lacan observes that "*the subject, while he may appear to be the slave of language, is still more the slave of discourse in the universal movement of which his place is already inscribed at his birth, if only in the form of his proper name*" (Lacan 2006, 414), he emphasises the inherent embeddedness of the individual within a broader "*symbolic*" order, which aligns with Peirce's attention to the inference process. However, the emergence of the unconscious can also be identified within Peirce's phenomenological categories, these unconscious signifiers, in Lacan's theory (represented as "*S(Ⱥ)*"), originate from a recognisable quality ("*representamen*"), connected by metaphorical associations that do not belong to the conventional "*symbolic*" dimension (of conscious signifieds represented as "*s(A)*"). This results in emotional and behavioural responses, conceptualised respectively as "*rhematic*" and "*dicisign*". This integrative approach demonstrates that complete comprehension (or "*argument*") is unattainable without a unifying symbolic structure. Thus, Lacan's theoretical perspective of the unconscious can be expressed through Peirce's signs:

-"*V. Legisign, Icon, Rhema*" or "*Signifiers*" that, by similarity, generate *emotions.*

-"*VI. Legisign, Index, Rhema*" or "*Signifiers*" that, within an indicative context or by similarity, generate *emotions.*

-"*VII. Legisign, Index, Dicisign*" or "*Signifiers*" that, within an indicative context or by similarity, generate *actions.*

This lack of an absolute convention across individuals and timelines does not prevent the pursuit of an optimal social position; rather, it indicates that the formation of the self is an ongoing negotiation between one's internal imaginary self-image and the external signifiers or signs that shape people. In urban settings, this conceptual convergence suggests that all the experiences with the environment's *natural*, *cultural* and *constructural* components serve as signifiers or signs. City stakeholders interpret these signifiers through conscious reflections and unconscious impulses, revealing urban life as a dynamic system of semiotic interactions. This synthesis reinforces the notion that understanding urban identity requires acknowledging the fluid interplay of subjective imageries' perceptions and the symbolic structures' interpretations, which are integral to city life.

14.9.7. Adapting Lacan's graphs towards *Desirable Cities*

Lacan's Graph of Desire offers an analytical framework for understanding how city stakeholders form and express their desires. The model demonstrates that individuals internalise societal norms and visual cues from their urban experiences from their earliest life stages. This process is central to forming the image of how they want to be (their expectations of themselves or their "*Ideal-Ego*"), as the surrounding environment shapes these self-concepts. Lacan's observation that "*the image of one's body in the mirror is the most evanescent of objects*" underscores the fluidity and transformative nature of self-perception within the realms of the "*imaginary*" and the "*symbolic*" order (Lacan 2006, 55).

In Lacan's theory, desire is closely linked to fantasy, which is itself rooted in a fundamental sense of "*lack*" or "*manque*" often located in the "*Other*", that is, the realm of societal norms and expectations. The formula "*$<>a*" symbolises this complex interplay, wherein the "*subject*" ("*$*") pursues an unattainable object of desire ("*a*"), which continuously shifts (making it unattainable), mediated by environmental "signifiers" (Lacan 2006, 961–693). As in the conscious dimension, where *all cultural possibilities*

bring people to choose *how they want to be* seen influenced by mirroring *imageries from* their *social interaction*, aiming for a social significance; it is in its mirroring unconscious dimension where the "*Signifiers*", linked to human enjoyment and social limitations ("*jouissance*" - "*castration*"), bring people to create desires influenced by "*fantasies*" (mirroring imageries from the social interactions), resulting in a *blank sign* or dominant Signifier without a standard social meaning. This process not only shapes everyday urban experiences but also illustrates the persistent gap between conscious aspirations and the elusive satisfaction of desire.

Lacan also explains how the unconscious operates in a manner that is perpetually in motion, desire never fully reaches a point of fulfilment, as it constantly slides beneath the signifier. This dynamic reflects city stakeholders' unpredictable and sometimes contradictory responses as they engage with their environments. In practical terms, city stakeholders form clear, conscious aspirations, such as housing, employment, and lifestyle choices, while simultaneously harbouring unconscious desires shaped by the "*imaginary*" and "*symbolic*" order, which can also be addressed as the cities' *imageries*. Here, the city's spaces and broader societal discourses function as the "*Other*" or urban structure of possibilities, from which emerge the signifiers that shape individual desires from collective fantasies and expectations of urban experiences. These desires can be genuine cravings or influenced by what Debord addresses as "*the commodity as spectacle*" (Debord 2005, 18–19).

Consequently, Lacan's graph can be adapted to illustrate that urban identity is not solely a result of rational production but is also fundamentally influenced by the interplay between the "*imaginary*" and "*symbolic*" subjectivities. The continual negotiation between these orders produces a dynamic network of urban semiotics, wherein the formation of expectations for desirable urban experiences must account for tangible and intangible dimensions. This nuanced understanding is central to the *Desirable Cities*' framework, which seeks to contribute to the development of urban environments that resonate deeply with the conscious aspirations and unconscious drives of city stakeholders' expectations for desirable urban experiences.

This adaptation illustrates loops of feedback between the city stakeholders' expectations for desirable urban experiences and the city's imaginaries that they internalised. One loop might explain how individuals projected fantasies of experiences onto city spaces (e.g., "If I move to New York, I will become cosmopolitan"). In contrast, another loop might show how the city's symbolic order (e.g., its marketing or

urban culture) influences individuals' identity (e.g., New York's branding makes people feel special to be there). Finally, the adaptation of Lacan's explanation of how potential misalignments of fantasies and experiences became critically important, as no city can perfectly fulfil every desire, and the pursuit of an idealised "utopian city" often leads to frustration. Recognising this, urban conditions can avoid chasing unattainable images of perfection and instead focus on creating spaces that allow open-ended fulfilment.

14.10. The mimesis of *desires*: Analysis of Girard's reflections on mimetic *desire*

René Girard's theory posits that human desires are fundamentally imitative rather than purely autonomous, suggesting that individuals often appropriate experiences they observe in others. This phenomenon, known as "*mimetic desire*", implies that human preferences and behaviours are relational and reflective, shaped by the social contexts in which people operate. Girard illustrates these ideas through literary examples: in *Don Quixote*, for instance, the main character adopts "*chivalric*" ideals from the *Romances* he reads (Girard 2000, 17). Girard argues that mimetic desire is not merely an anthropological phenomenon shaping cultural institutions but also the primary driving force behind individual psychological formations and dysfunctions. Engaging in extensive dialogue with his interlocutors, Girard critiques prevailing psychological theories for their approach to desire, rivalry and psychopathology (Girard 2000, 44–45). His approach is resolutely theoretical, often deducting from the core hypothesis of mimetic desire to explain various psychological symptoms and structures (Girard 2000, 290).

Girard argues that human desire, unlike animal appetite, is fundamentally mimetic, directed towards objects desired by a model (Girard 2000, 284). He highlights the crucial distinction between the mimesis of apprenticeship, essential for cultural acquisition, and the mimesis of rivalry, which is inherently conflictual. (Girard 2000, 291). The modern world, characterised by a weakening of sacrificial mechanisms, witnesses an intensification and endemic nature of mimetic desire, leading to what Girard terms "*metaphysical desire*", a desire for the being of the model rather than merely the object, which aligns with Lacan's view of desire (Girard 2000, 289). This concept, where the object becomes secondary to the relationship with the model-rival, is central to Girard's subsequent analyses of psychopathology. He also briefly touches upon Gregory Bateson's "*double bind*" theory, suggesting that mimetic theory offers a broader framework for understanding dysfunctional communication patterns and the exclusion of a victim within small groups (Girard 2000, 294).

Girard delves into the more extreme manifestations of mimetic rivalry, focusing on the phenomenon of "*doubles*", where individuals become intensely fixated on and undifferentiated from their mimetic rivals (Girard 2000, 300–301). Girard argues that the experience of doubles, often seen as a sign of psychosis, reveals the underlying reciprocity of mimetic relationships, which the subject desperately tries to deny by seeking difference (Girard 2000, 303). He critiques Freudian psychoanalytic interpretations of the "*double*" as mere hallucination, asserting that it has a basis in actual, although misapprehended, interindividual dynamics, but does not criticise Lacan (Girard 2000, 303). The discussion extends to psychotic structures where the object of desire disappears entirely and to phenomena like "*hypnosis*" and possession, which Girard interprets as caricatures of "*interdividual*" "*mimetic mechanisms*", highlighting the powerful influence of a model's desire on a subject (Girard 2000, 325– 26), just like signifiers do.

In an urban context, these insights from Girard's theory help explain patterns such as social trends, neighbourhood booms, or competitive social status within consumer choices. As city stakeholders adopt or reject the desires of others' experiences, whether manifested through media or prevalent social behaviour, particularly in urban public spaces or lifestyles, they gain symbolic value and social prestige. This contagion can generate cohesive cultural waves and yield conflict by social stratification when too many agents pursue the same scarce resources, like housing in prime locations.

Like Lacan's emphasis on the "*Other*" as the locus of possibilities, Girard's theory acknowledges that desire emerges not in isolation but through ongoing references to external models or imageries from other individuals' experiences, carrying symbols embedded in cultural discourse. From a psychoanalytic viewpoint, this resonates with Lacan's observation about the mirror stage and "*the single trait*" that provides a reference for identity (Lacan 2015, 356). Both theories recognise the potential conflicts inherent in imitation. Lacan highlights "*a function of mastery, a game of bearing, and constituted rivalry*" (Lacan 2006, 685). Girard focuses on how such mimetic rivalries heighten as multiple subjects converge on shared ambitions, escalating tensions, and sometimes culminating in violence.

Thus, Psychoanalytic and mimetic theories offer profound insights into how unconscious and conscious desires shape urban experiences (Lacan 2006; Palaver 2013). Environmental psychology and urban studies have historically focused on how the physical environment affects human well-being (Anthony and Watkins 2002;

Bonnes et al. 2018; Churchman 2002; Steg and de Groot 2018). By introducing Lacan's conceptualisation of "*desire*" and "*fantasy*", along with Girard's mimetic desire, this discourse emphasises the dynamic interplay of individual and collective "*imaginaries*" yearnings. Lacan's notion of the Gaze spotlights how aesthetic encounters, think iconic skyscrapers or heritage plazas, can stir fantasies, e.g., prestige, belonging, or even lack (Assche et al. 2023). Meanwhile, Girard's theory of mimetic desire exposes why certain districts surge in popularity when perceived as "desirable models" are imitated, an effect that can spur gentrification or rapid commercial development (Rabe 2024). Empirical evidence supports these claims: local consumer behaviours and housing markets often shift in response to media or influencer endorsements of particular neighbourhoods (Bacchini et al. 2022). *Desirable Cities* puts forward that intangible drivers, aspirations, symbolisms, and social tensions, heavily condition whether new urban projects resonate or provoke backlash. Critics, however, caution that such psychoanalytic readings may over- psychologise structural inequalities, overlooking broader economic factors. Yet *Desirable Cities* counters by underscoring the inseparability of desire from social and financial frameworks, a stance echoed by multiple studies linking emotional investment to cultural capital and policy decisions (Degen et al. 2008).

The application of Lacan's and Girard's frameworks in urban contexts draws from a growing body of *interdisciplinary* research that recognises desire as a crucial lens for understanding spatial experiences (Kingsbury and Pile 2014). For instance, psychoanalytic methods examine how unconscious dimensions, such as repressed anxieties or fantasies, influence everyday life in dense cityscapes (Kingsbury and Pile 2014, 4–8). Likewise, Girard's focus on imitation clarifies how architectural or stylistic trends spread and why specific aesthetics become associated with higher social status (Bacchini et al. 2022; Rabe 2024). Amid shifting urban identities, these theories help analysts move beyond purely formal or functional approaches, illuminating city spaces' "*seductive*" or "*unsettling*" qualities.

Critically evaluated, Girard's approach partially aligns with Peirce's semiotic framework by addressing how icons, indices, and symbols shape observable social patterns within their *emotions*, *actions* and *reflections*. Yet, Girard does not elaborate on the interpretative nuances that Peirce identifies in the ongoing semiosis of meaning-making. Despite this limitation, Girard's mimetic lens remains valuable for identifying how collective urban phenomena, such as trends, gentrification, or political movements, are propelled by imitation rather than purely rational or individual preferences.

In the *Desirable Cities*' framework, Girard's theory supports Lacan's emphasis on the unconscious by showing how external models or imageries, like city stakeholders' experiences, popular spaces, or social media influencers, profoundly imprint on people's expectations for desirable urban experiences. Recognising that emulative processes condition people's aspirations can help *city makers* anticipate or mitigate phenomena such as speculative housing booms or entrenched rivalries among neighbourhoods and *city users*, and better understand their emotional attachments to their urban experiences (Burgis 2021, 114–16). Ultimately, Girard's mimetic desire underscores the interwoven nature of subjective collective forces in shaping the dynamics of urban life.

14.11. The spaces of *desires*: Analysis of Ellard's reflections on *Psychogeography* and *desire*

Collin Ellard's *Psychogeography* shows that urban form modulates affect in situ, with measurable consequences for *desirability*. In field experiments comparing a long, blank retail facade on East Houston Street to an active, transparent frontage nearby, participants' self-.reports and skin conductance indicated boredom and lowered arousal at Bank's facade, versus positive engagement at the transparent frontage (Ellard 2015, 107–12). This merges with Gehl's close range observations that blank ground floors speed walkers and suppress pausing, whereas "*lively*" facades elicit looking, lingering, and social contact (Gehl et al. 2006, 29–33). Ewing and Handy operationalise these qualities, of imageability, enclosure, human scale, transparency, and complexity, linking them to walkability and behavioural use (Ewing and Handy 2009, 65–69). Ellard's evidence can be situated theoretically within dimensional models of emotion, clarifying how streetscapes push users toward approach/avoidance states (Russell 1980, 1161–66). Together, these findings support a fine grained, affect based account of *desirability* where frontage composition and micro morphology co-produce urban pleasure or disaffection (Ellard 2015, 151–56; Ewing and Handy 2009, 70–72; Gehl et al. 2006, 29–34; Russell 1980, 1168–72).

Ellard also shows that *desire* for places is amplified by "*nature in space*" and "*awe*", where features such as complexity with coherence, legible vistas, and multisensory depth foster restorative, positively valenced states (Ellard 2015, 151– 56). Clinical evidence demonstrates the beneficial effects of natural cues, as patients with green views recovered faster and used fewer analgesics than those facing brick walls (Ulrich 1984, 420–21). Stress recovery and attention restoration traditions explain these

benefits, while newer critiques remind people that biophilia is not a sufficient explanation and that processing fluency likely mediates preference (Joye and Van Den Berg 2011, 261–64). For design, the implication is pragmatic: distribute accessible green features and textured edges along everyday paths to convert ordinary movement into affectively rewarding encounters (Ellard 2015, 153–56; Joye and Van Den Berg 2011; Ulrich 1984, 420–21).

A key warning in Ellard's work is that monotonous environments cultivate "*epidemic levels of boredom*", with measurable physiological signatures and behavioural fallout (Ellard 2015, 110–20). Urban boredom correlates with avoidant pedestrian behaviour and attenuated street life (Gehl et al. 2006, 33–37), and design metrics confirm how transparency and ground-floor permeability increase positive use (Ewing and Handy 2009, 72–79). Neuroscientific evidence connects chronic urban stress to altered limbic responses, as city living elevates amygdala reactivity and reshapes cingulate regulation under social stress, a pathway plausibly aggravated by sensory deprivation at eye level (Lederbogen et al. 2011, 498–501). The public-health implication is clear: calibrating street-edge complexity to human perceptual thresholds is not merely aesthetic, it is preventive mental health policy (Ellard 2015, 117–20; Ewing and Handy 2009, 79–83; Gehl et al. 2006, 41–45; Lederbogen et al. 2011, 500–501).

Ellard frames desire as actively produced by environments that "*jack into*" ancient appetites, what he calls "*place-lust*", across recreational buildings, theme parks, and spectacle streetscapes (Ellard 2015, 101–7). This resonates with Debord's original psychogeographic claim that urban ambiences shape emotion and conduct, urging experiment with routes, edges, and atmospheres to re-pattern everyday desire (Debord 2005). In design terms, codified frontage rules (doorway frequency, two-way transparency, five-second interest rhythm) become levers for orchestrating approach- oriented affect without coercion (Gehl et al. 2006, 38–43). Dimensional affect models then offer testable targets for *Desirable Cities*, as streets can nudge pleasure and moderate arousal, by staging curiosity rather than overload, through varied, legible, human-scale stimuli (Ellard 2015, 106–11; Gehl et al. 2006, 40–43; Russell 1980, 1168–75).

14.12. *Desirable Cities*' diagram of desires

Synthesising Ellard's *psychogeographic* insights with Lacan's conscious and unconscious structuring of desire, Girard's mimetic dynamics, and Peirce's *Pragmaticism*, *Desirable Cities* proposes a conceptual *graph of urban desirability* that maps how urban desirability emerges from intersecting environmental, psychological, and social factors as following: Within the city's "*natural*", "*cultural*" and "*architectural*" components of the environment, sensory predisposition (Ellard), influences city stakeholders' conscious and unconscious desires shaped by "*imaginary*" and "*symbolic*" systems of "*signifiers*" (Lacan), obtained through social "*mimicking*" (Girard) that can be understood by the "*semiotic process*" of environmental perception and interpretation (Peirce).

This again demonstrates that a city's desirability cannot exist without a balanced relationship between Earth's ecosystem equilibrium, social well-being, and thriving urban spaces. Therefore, any desirable goals of a city worldwide must consider the balance of the environment's *natural*, *cultural* and *constructural* components *holistically*. On the other hand, the maxim of the *Pragmaticism* paradigm within the semiotic process highlights an equally paramount factor in the ontological and epistemological stages of the people's environmental perception, interpretations, and aspirations through environmental imageries, which triggers in people *emotions*, *actions* and *reflections*. These double triadic variables articulated by the imageries can accurately address the relationship between people and the environment, from which desirability emerges. See *Image 118*: *People and their environment relationship*.

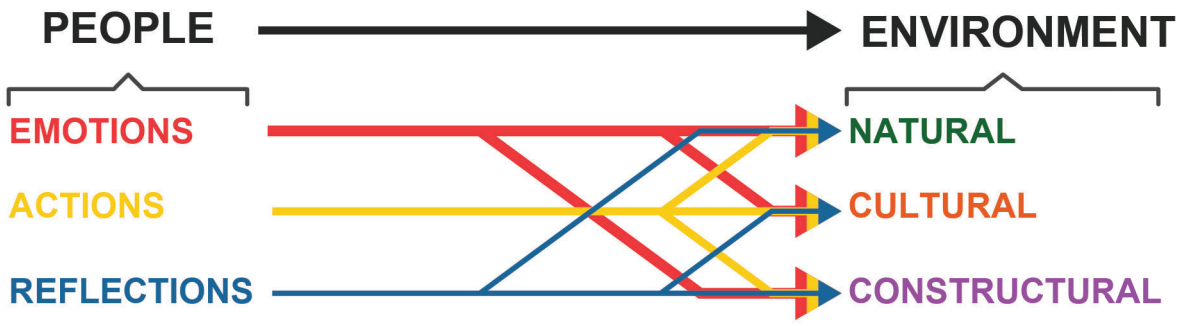


Image 118. *People and their environment relationship.*

However, as explained by Maturana, the "*natural*" or *urban* "*drifting*" of the relationship between people and environment is a dynamic and continuous process. This, together with the geographical diversity, anchor the environmental imageries to a given time within a specific location, revealing that the city's phenomenological imageries of a community's common expectations for desirable urban experiences cannot be catalogued for an

extended period as they eventually change. Nevertheless the process of acquisition remains consistent, making it possible to extra the expectation that people have of desirable experiences by stable conditions using the same model of a double triadic variables articulated by phenomenological imageries. See *Image 119*: *Imageries as the bridge between people and their environment*.

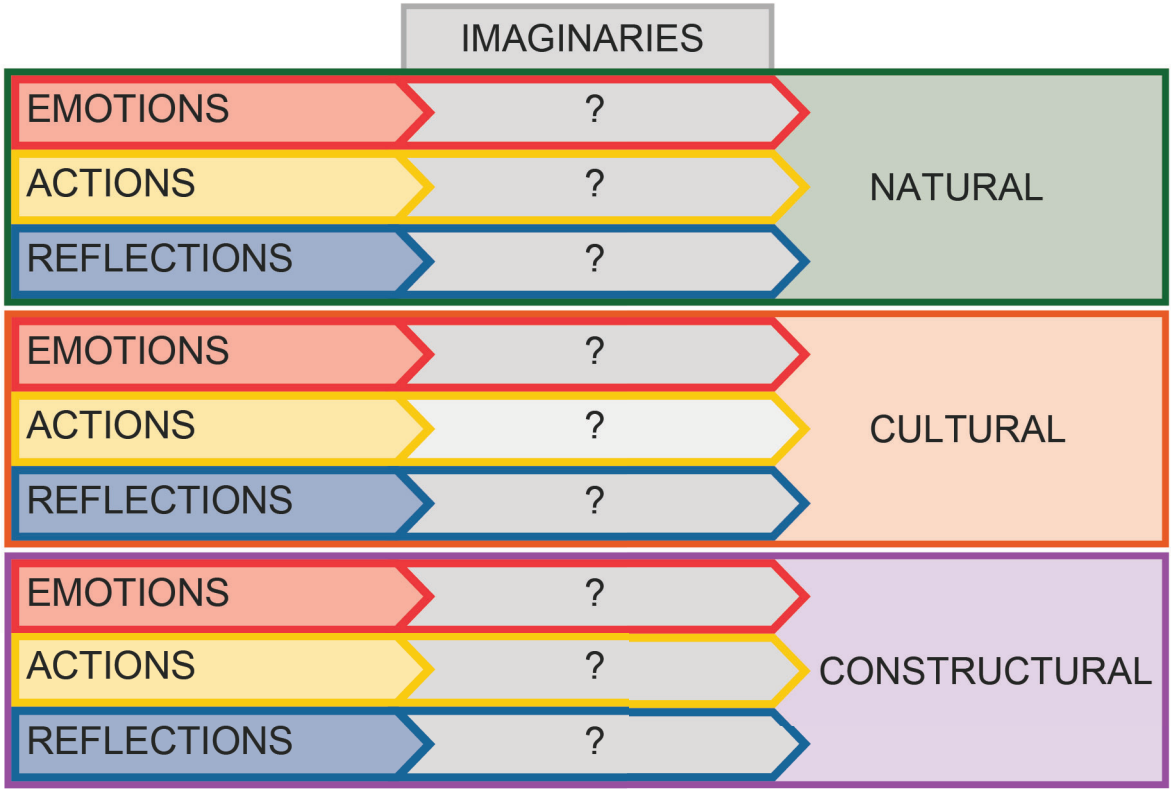


Image 119. *Imageries as the bridge between people's understanding and their environment.*

In other words, the imageries from the perceptual interpretation of the environment's *natural*, *cultural* and *constructural* components and the phenomenological experiences that trigger *emotions*, *actions* and *reflections* will manifest the expectations of city stakeholders for desirable urban experiences, reinforcing them in a *holistic* approach. Thus, city developments require a conscious understanding and a balanced outcome of the interplay of these variables to achieve liveable, meaningful and *desirable* cities.

14.13. Desires for life: Conclusion for *Desirable Cities*' articulation of culture and *desire*

It is evident that people's perception, particularly their visual interaction with the environment, is intricately tied to how desirable people find their cities. Visual perception is not a superficial concern, but a powerful driver of imaginary and symbolic responses. A visually pleasing environment activates positive affect, fosters a sense of coherence,

and may lead city stakeholders to judge it more liveable. The aesthetic– usability effect implies that aesthetically appealing urban spaces are often perceived as more navigable and user-friendly. Conversely, visually chaotic or barren settings can induce stress or disconnection, undermining a city's appeal and possibly eroding civic pride or communal attachment.

Bridging psychoanalytic theories of desire with insights into collective imitation and environmental cognition highlights that a city's desirability is not merely a product of utility or economic advantage. It also depends on intangible perception, imagination, and emotional resonance processes. Desirability flourishes if people see and feel their environment as life-affirming, comfortable, and symbolically rich. This guiding principle reinforces *Desirable Cities*' commitment to a *holistic* approach, recognising how psychosocial forces and sensory design converge to shape urban environments worthy of human aspiration, integration, and care.

14.14. Society's *desirable* coexistence for life: Conclusions for *Desirable Cities*' *cultural* environment framework

The *cultural* environment, as framed within *Desirable Cities*, is the dynamic crucible where the material city is imbued with human meaning and where the very notion of *desirability* is forged. This framework moves beyond a surface-level analysis of social interactions to probe the deeper biological, perceptual, and psychological structures that govern how city stakeholders experience and shape their urban world. By synthesising insights from cognitive biology, psychoanalysis, and social theory, this section establishes a robust understanding of the forces that underpin a truly desirable *cultural* environment.

The investigation begins with the foundational premise, drawn from Maturana, that perception is not a passive act but an active, life-sustaining engagement with the world. Through the process of "*structural coupling*", city stakeholders and their environment are locked in a continuous dance of mutual co-creation, addressed by *Desirable Cities* as *urban drifting,* that forms the very basis of urban culture. This dynamic is not arbitrary; it is guided by a "*biology of love*", the innate human need for cooperation and empathy that enables social cohesion and makes communal life possible. A *desirable city*, therefore, must first and foremost be a place that nurtures these fundamental relational bonds.

Building on this, the framework delves into the complex architecture of desire itself, demonstrating that what makes a city appealing is rarely a matter of simple, rational preference. Drawing from Lacan, it posits that the urban environment functions as a vast

symbolic and *imaginary* order, a text composed of "*signifiers*", from architectural styles and public art to media spectacles and social trends, that structure people's fantasies and give shape to their aspirations. This perspective is powerfully complemented by Girard's theory of "*mimetic desire*", which reveals that the urban environment is often experienced by imitation, adopted from the models observed in the social world. Together, these theories explain the potent contagion of trends, the *symbolic* capital of certain neighbourhoods, and the collective yearning for specific urban lifestyles.

Social *desirability* emerges from this framework not as a fixed set of amenities but as the emergent qualities that successfully resonate with these deep-seated perceptual and psychological dynamics. A desirable *cultural* environment provides a rich layer of *symbols* and *experiences* that engage its stakeholders' conscious and unconscious desires. It creates spaces that are legible within the collective imaginary and allow for the positive, harmonious expression of both individual and mimetic aspirations. Ultimately, the *cultural* environment framework concludes that a city becomes truly *desirable* when its social fabric is woven from a profound understanding of these life-sustaining processes of perception and the intricate, shared logics of desire. This lays the groundwork for a *holistic* approach where *cultural* vitality is seen as inseparable from ecological balance and thoughtful constructural design for the well-being of its people.

15. *DESIRABLE CITIES' CONSTRUCTURAL* ENVIRONMENT FRAMEWORK

15.1. Understanding people's spaces

The *constructural* environment, like buildings and language, is constructed by people for people. Within cities, these environments constantly interact with people's perceptions and behaviour, leading them to produce interpretations and appropriations influenced by their cultural context and psychological responses. This framework focuses on the tangible dimension of the *constructural* environment, as the intangible dimension was already addressed in the *cultural* environment framework. It will examine cities' morphologies, focusing on public space typologies and how this leads to social activities. Public spaces serve as the stages upon which urban life unfolds, making them critical to influencing whether a city is perceived, interpreted and experienced as an inviting and attractive space, or an alienating and dull one. In what follows, *Desirable Cities* first considers why public spaces are so influential, then outlines the *Desirable Cities* categories of public spaces, including transportation systems as a specific form of public space, and finally concludes with insights on how these spaces collectively enhance

urban *desirability* through the encouragement of social activities that become urban experiences.

15.2. Cities' morphologies

At its core, the morphology of a city, its layout of streets, parks, plazas, and buildings, provides the physical canvas for urban life. Understanding this physicality is essential for the *Desirable Cities*' paradigm because it links the tangible urban environment with the intangible expectations for desirable urban experiences. Urban theorists have long observed that the design of cities influences how people perceive them: a coherent, human-scaled cityscape tends to foster a stronger sense of place and security (Jacobs 1961, 35–41; Lynch 1960, 2–9). Conversely, poorly planned or monotonous environments can dampen a city's appeal (Ellard 2015, 128–31). Within the *Desirable Cities*' framework, city morphology is not viewed in isolation; it is considered alongside *natural* and *cultural* environments to form a *holistic* picture. The preliminary study conducted in the early stages of *Desirable Cities* helped pinpoint which physical spaces people interact with most and how they talk about those spaces. Those findings align with broader literature: certain types of public spaces repeatedly emerge as crucial for a positive urban experience (Carmona 2004, 3–7). Open places accessible to everybody often shape general impressions of cities. Therefore, a key aspect of city morphology in this framework is the emphasis on open- air public spaces.

15.3. The importance of public spaces

Public spaces are often called the "*heart*" of the city, and for good reason: they significantly influence how locals and visitors perceive a city. When people recall or judge a city, they often think of its plazas, parks, streets, and landmarks. Urban studies show that people form strong mental images of cities based on these public elements (Lynch 1960, 46). A city with beautiful, lively public spaces will likely be seen as vibrant, welcoming, and memorable. This phenomenon is tied to what Lynch termed "*imageability*", defined as "*that quality in a physical object which gives it a high probability of evoking a strong image in any given observer*" (Lynch 1960, 9). Highly imageable elements, such as a distinctive waterfront promenade or a historic square, anchor a city's identity in people's minds.

Moreover, public spaces are where social interactions and civic life materialise, directly affecting city stakeholders' sense of attachment to their city. Sociologists and urban

anthropologists note that when people have access to enjoyable “third places”, which are informal gathering spots beyond home and work (Oldenburg and Brissett 1982, 265–68), such as cafés, markets, or parks, their sense of community and satisfaction with city life increases (Francis 1989, 56–57; Oldenburg and Brissett 1982, 265–68). These spaces allow for chance encounters, cultural exchange, and collective activities that foster a feeling of belonging. For instance, a well-used neighbourhood plaza can become central to community identity. Public spaces also serve as visual and experiential symbols of a city’s values and culture. For example, a grand public park symbolises a commitment to quality of life and nature, while a network of bustling street markets signals entrepreneurial energy. In short, public spaces profoundly shape general perceptions of a city’s liveability and character. *Desirable Cities* recognise the importance of public spaces, placing a strong emphasis on identifying these spaces within the city. Numerous studies link well-designed public environments with positive outcomes like increased well-being, lower stress, greater civic engagement, and economic benefits for urban areas (Chiesura 2004, 130–33; Jacobs 1961, 35–41). Hence, understanding which types of public spaces contribute to desirability is a critical step in *Desirable Cities*. The following section breaks down the categories of open-air public spaces that *Desirable Cities* uses to map and analyse the *constructural* environment’s contribution to a desirable urban experience.

15.4. Cities’ open-air public spaces

Desirable Cities addresses the universality and diversity of urban public spaces that are highly exposed to people’s perceptions as open-air spaces. In cities worldwide, specific categories of spaces consistently appear, each serving distinct purposes, yet the particular form and cultural meaning of those spaces can vary. Considering the vast scale of metropolitan areas and the wide variety of urban settings, the *Desirable Cities*’ framework categorises open-air public spaces into nine key types. This typology is designed to capture a comprehensive range of the urban public realm, from iconic landmarks to everyday community spaces. The nine categories identified are: sightseeing sites, public squares, major boulevards, small streets, commercial open-air spaces, pop-up street markets, metropolitan parks, small gardens, and promenades. Below, *Desirable Cities* define each category and discuss its significance in shaping perceptions of the city’s desirability, drawing on urban studies literature for each.

15.4.1. Sightseeing sites

These landmarks and iconic sites often serve as the face of a city, attracting tourists and locals alike. They are not mere locations on a map, but narratives in physical recognisable form, each telling a story about the city's history, culture, or development. They can be "*singular objects*" or skylines, recognisable by their "*singular objects*" (Baudrillard and Nouvel 2002, 10–13). Classic examples include monuments, heritage buildings, renowned architectural structures, or famous vistas. Sightseeing sites often become symbols of the city's identity, encapsulating its uniqueness and spirit. Lynch's concept of imageability is especially relevant here, as such places have a high likelihood of leaving a lasting image in the observer's mind. For instance, the Eiffel Tower immediately evokes Paris, and New York's skyline is inseparable from its iconic skyscrapers. These sites contribute to desirability by creating pride and global recognition; residents feel attached to them as part of their city's image, and visitors are drawn to the city to experience them (*imageries*). Importantly, beyond their postcard value, well-integrated landmark sites can also provide functional public space (e.g., a monument surrounded by a public plaza for gatherings). In the *Desirable Cities*' framework, sightseeing spaces are crucial because they anchor the city's visual brand and positively influence external and internal perceptions. As Baudrillard, Lynch and Nouvel suggested, a city with substantial landmarks tends to be better loved and navigated by its people (Baudrillard and Nouvel 2002, 10–13; Lynch 1960, 78–83).

15.4.2. Public squares

These are dynamic hubs of urban life, often functioning as the gathering spot of the cities. Traditionally, the public square (or plaza) is where people come together for various activities, from daily socialising and commerce to festivals, protests, and civic events. In this way, squares embody the spirit of community and public engagement. Anthropologist Low notes that well-designed plazas facilitate social interactions and can reinforce a sense of communal identity (Low 2008, 31–46). Squares also historically serve as platforms for social expression, where citizens can voice opinions and assemble, reflecting their vital role in civil society (Low 2008, 180– 206). Urban designer Gehl observed that public squares, with human-scaled proportions, places to sit, and things to watch, encourage people to linger and participate in city life (Gehl 2010, 22–25). Culturally, a square often becomes a symbolic centre: consider how people identify cities by famous squares (e.g., St. Mark's Square in Venice or Times Square in New York). In terms of desirability, a

lively square signals that a city is sociable, culturally vibrant and inclusive. It adds to daily quality of life (neighbours meet, children play, markets pop up) and makes the city attractive for visitors seeking an authentic local atmosphere (*imageries*). Public squares in the *Desirable Cities*' taxonomy are therefore seen as critical "pulse points" where the city's heartbeat, its human activity, can be felt most vividly.

15.4.3. Major boulevards

More than just big streets, major boulevards are the grand arteries of the city, often lined with a mix of commercial, cultural, and civic destinations. These wide avenues typically accommodate diverse flows (vehicles, pedestrians, etc.) and serve as visual and social corridors showcasing the city's energy. Think of the Champs- Élysées in Paris or Broadway in New York – they are places to see and be seen (*imageries*), as much as routes to travel. Boulevards often feature street trees, lighting, and distinguished architecture, contributing significantly to the boulevard's and city's character and aesthetic appeal. As Jacobs highlighted, active main streets with diverse uses encourage street life and "*eyes on the street*", enhancing safety and vitality (Jacobs 2016a, 29–54). Major boulevards can reflect a city's ambitions and identity: for example, a boulevard lined with theatres and galleries projects a cultural image, while one with corporate headquarters and malls projects economic dynamism. From the desirability standpoint, well-designed boulevards make a city feel accessible and grand at the same time, as they handle large flows of people efficiently (a desirable trait for any bustling city) but can also offer pedestrian amenities (wide sidewalks, benches) that invite people to enjoy the urban scene. These spaces benefit from what urbanists call "linear exposure": as one moves along a boulevard, one encounters a cross-section of the city's offerings. *Desirable Cities* includes boulevards in its focus because such streets often form locals' first impressions and residents' daily routes, strongly colouring their overall perception of the city.

15.4.4. Small streets

In contrast to boulevards, small streets (including alleyways, laneways, or narrow shopping streets) offer intimate glimpses into the city's daily rhythms. These are often placed away from main roads, sometimes in historic districts or residential neighbourhoods. With low car traffic or without, they provide a quieter, human-scaled environment. Whyte's observations on pedestrian behaviour show that people appreciate places where they can stroll, window-shop, and spontaneously interact without the noise and speed of cars

(Whyte 1980, 54–58). Such streets often host boutique shops, cafés, or small public corners, contributing to local life. They may not be as iconic as grand boulevards, but they are essential for residents' day-to-day desirability of a city; these are the kind of charming streets where one might greet a neighbour, discover a street mural, or enjoy a hidden courtyard (*imageries*). Culturally, small streets often preserve traditions (a cluster of old craftsmen, a street of family-run eateries) and thus give cities a sense of continuity and authenticity. Literature frequently cites them as fostering social capital because these streets are scaled to people, not vehicles; they naturally encourage walking and face-to-face interaction (Appleyard et al. 1981, 55–60). In the *Desirable Cities*' framework, these spaces are recognised for supporting local community bonds and offering community vibes within the larger city. A city with pleasant pedestrian lanes is often perceived as safer, more walkable, and more romantic or intriguing, making it attractive to live in and visit (Montgomery 1998, 104–10).

15.4.5. Commercial (open-air) spaces

This category refers to outdoor public areas dedicated to commerce and leisure, such as street cafés, open-air dining terraces, pedestrian shopping streets, or public markets that operate regularly. These spaces are vibrant hubs of economic and social activity, where buying and selling intertwine with mingling and people-watching (*imageries*). A sidewalk café culture, for instance, signals that a city has a relaxed, sociable rhythm where people take time to enjoy life in public. Open-air retail streets, like outdoor malls or traditional bazaars, engage multiple senses, such as the sights of goods, the sounds of street musicians or vendors, and the smells of food or flowers. These sensory experiences make the city feel alive and stimulating. From a desirability perspective, commercial open-air public spaces contribute to a city's convenience and conviviality. They offer opportunities for socialising and daily needs and desires, enhancing liveability. Studies in urban economics also suggest that well-used commercial open-air public spaces can boost local businesses and tourism appeal (Edensor 1998, 13–19), creating a virtuous cycle where economic vitality and social vitality reinforce each other. It's worth noting that the design of these spaces matters: according to Gehl, features like comfortable seating and protection from traffic are key to their success (Gehl 2010, 3–46). Thus, open-air commercial areas are those where one can leisurely shop, eat, drink and socialise under the sky.

15.4.6. Pop-up street markets

These temporary, seasonal or occasional marketplaces transform streets or vacant lots into bustling bazaars and festivals, often on weekends or special occasions. Examples include farmers' markets, night markets, or art fairs that "pop up" for a day or season. These markets are not just about commerce; they are cultural events and social gatherings. Zukin notes that such ephemeral markets add diversity and excitement to urban life, showcasing local artisans, foods, and traditions (Zukin 2010, 19–31). They create an atmosphere that can break the routine of city life, inviting people to explore neighbourhoods they might not otherwise visit. The sensory overload, with vibrant colours of produce and crafts, the sound of vendors hawking, music playing, and the aroma of street food, contributes to an exciting urban experience (*imageries*). From the standpoint of urban desirability, pop-up markets enhance a city's dynamism and creativity. They signal that the city supports local entrepreneurship and cultural expression, which can be a point of pride for the city stakeholders. These markets also encourage social mixing: people from different social groups converge in the same space to browse and negotiate, strengthening community ties. One critical aspect is their flexibility; because they are temporary, they can activate underused spaces and demonstrate how even a quiet street can become a lively forum. *Desirable Cities* include pop-up markets in their analysis as they represent urban adaptability and grassroots initiative, which make a city feel more engaging and participatory. However, it's also implied in literature that the sustainability of such markets (and avoiding commercialisation that might dilute their authenticity) is essential to maintain their positive impact.

15.4.7. Metropolitan parks

These are large, often centrally located green oases within the urban landscape. They provide a much-needed breathing space from the density and rush of city life, offering spaces for relaxation, recreation, and nature appreciation. Iconic examples are Central Park in New York, Hyde Park in London, or Stanley Park in Vancouver. These parks typically feature expansive grasses, trees, water features, and facilities like playgrounds or sports areas (*imageries*). Frederick Law Olmsted, the 19th-century landscape architect who designed many famous parks, argued that such green spaces are essential for urban residents' physical and mental health (Olmsted and Sutton 1865, 24–27). Contemporary research strongly supports this idea, as access to urban green space has been linked to stress reduction, improved mood, and better physical health

outcomes (Hartig et al. 2014, 207–12). For a city's desirability, metropolitan parks play a crucial role in the quality of life. Residents often cite parks as one of the most appreciated urban amenities because they allow city stakeholders to connect with nature, exercise, and engage in outdoor social activities without leaving the city. They also serve as venues for community events (concerts, festivals) that enrich the city's cultural life. A beautiful big park can become a defining feature in terms of city identity. The *Desirable Cities*' framework treats metropolitan parks as key infrastructure for sustainability and liveability. These spaces reflect a city's commitment to environmental well-being and public health. However, ensuring they are accessible and well-maintained is vital; a neglected or gated park would not contribute to desirability. The literature emphasises that the benefits of urban parks, from biodiversity support to social cohesion, are maximised when parks are integrated into the urban fabric and accessible to all, aligning with the *Desirable City* ideal of inclusiveness (Chiesura 2004, 130–33).

15.4.8. Small gardens

On a more localised scale, small gardens (such as community gardens, pocket parks, or landscaped squares in neighbourhoods) provide green breathing spaces embedded in small residential or mixed-use areas. These might include community- managed vegetable gardens, small playgrounds, or ornamental gardens within a city block. While modest in size, they have an outsized impact on the immediate community's quality of life. Small gardens offer residents daily contact with nature, including places to see greenery, hear birds, or tend plants. They also often become social nodes for neighbours: people meet while gardening, parents chat as children play, and elders rest and observe street life (*imageries*). According to environmental psychologists, even a tiny patch of greenery can enhance neighbourhood satisfaction and attachment (Kaplan and Kaplan 1989, 150–58). Francis found that community gardens foster a sense of ownership and pride among participants and can improve social relationships in the area (Francis 1989, 56–59). For the city, networks of small gardens contribute to ecological benefits (rainwater retention, urban cooling, habitat for birds and pollinators) and aesthetic appeal. Regarding desirability, well-distributed small parks or gardens signal well-being considerations, where every part of the city has some access to natural features. Cities known for high liveability often excel not only in big parks but also in abundant pocket parks and green streets. In the *Desirable Cities*' *holistic* approach, small gardens are recognised as vital for grassroots-level desirability, as they directly touch people's everyday lives and can

turn an anonymous city block into a cherished place. They reflect the idea that every city stakeholder should have a bit of nature and community space within arm's reach.

15.4.9. Promenades

These are scenic public walkways, often along waterfronts, coastlines, rivers, or other pleasant routes, designed explicitly for pedestrian leisure. They invite people to take leisurely walks, jog, or socialise while enjoying views and fresh air. Classic examples include beachfront esplanades like Copacabana in Rio de Janeiro, or riverfront walks like Southwark in London. Promenades' emphasis on aesthetic and recreational experience distinguishes them, as they are typically landscaped and designed with appealing features, like being lined with trees, public art, public furniture, and offering panoramic outlooks of the city skyline (*imageries*). Whyte noted that when cities provide safe, continuous promenades, people naturally gravitate to them for strolling, one of the most straightforward yet most satisfying urban activities (Whyte 1980, 76–83). Promenades encourage social interactions and physical activity, while becoming iconic leisure sites within a city, for example, the Seine River embankments in Paris or Marine Drive in Mumbai, are integral to those cities' identities as places of romance for visitors, and relaxation for locals. In evaluating urban desirability, promenades add the dimension of scenic quality and lifestyle. A city with a beautiful waterfront or hilltop promenade is often perceived as having a higher environmental quality and offering a better urban experience, especially in the eyes of visitors and locals seeking recreational opportunities. The insights of *biophilia* (humans' love for connecting with nature or water) encourage cities to leverage their waterfronts, which tend to be highly appealing (White et al. 2010, 482–93). In the *Desirable Cities*' framework, promenades exemplify how thoughtful design of circulation spaces can transform them into social and cultural assets rather than simple routes of movement.

Each of these nine types of urban open-air public spaces plays a distinct role in shaping the experience and image of the city. Together, they contribute to urban environments' identity, liveability, and overall desirability. For instance, landmarks and boulevards might draw initial admiration for a city, while small gardens and local streets sustain one's day-to-day satisfaction of living there. A key insight from this literature is that diversity in public spaces is crucial: a desirable city offers everything from grand civic spaces to informal local hangouts, addressing various human needs and desires. By categorising public spaces in this way, the *Desirable Cities*' framework highlights

areas where *city makers* can act to protect scenic sites and parks, invest in squares and marketplaces, nurture street life, and so on. It is also understood that these categories are interrelated. A successful boulevard may lead to a great square; a park might connect to a promenade; small streets might host pop-up markets on weekends. The city is an interconnected network of spaces, and its desirability emerges from how this network is woven into *desirable* urban experiences.

15.5. Cities' transport systems

Within the *Desirable Cities*' framework, transportation systems represent an essential element of the *constructural* environment. Although transportation systems move people and are usually operated by people, these systems are tangible (with stations, infrastructures, etc.) and are very present within the *constructural* environment. Thus, transport systems can be viewed as built structures and objects from where people experience the city. Banister explains that diverse mobility options, from public transport to more flexible solutions like ridesharing, are integral to forging sustainable and liveable cities (Banister 2008, 74–76). Similarly, Sheller and Urry note that bicycles, scooters, and skateboards are not merely utilitarian means of getting from one place to another, but also *cultural* environment signifiers that shape how *city users* engage with the urban fabric (Sheller and Urry 2006, 208–10).

In many cities, metros and trains serve as high-capacity transport corridors that underpin regional accessibility, offering efficient links between central activity nodes. Seen as iconic systems, they often become part of the city's identity. Buses have more flexible routes and can easily reach urban areas if adequately planned (Banister 2008, 74–76). A well-integrated bus network indicates a commitment to equitable access, particularly when routes connect peripheral neighbourhoods and ensure short walking distances to stops. Alongside these conventional modes, tourist buses represent a specialised form of transport, targeting visitors and shaping how they perceive and traverse the city. Such services frequently highlight landmarks or scenic routes, intersecting with the urban image and tourist experience (Lynch 2006, 78–83). Taxis and ride-hailing platforms (e.g. Uber and Didi) provide on-demand mobility, affording convenience at a higher cost and potentially affecting car ownership decisions in urban contexts (Sheller and Urry 2006, 209–12).

Private cars remain common in many cities, yet evidence from sustainable mobility literature indicates their prevalence often clashes with goals of reducing congestion,

pollution, and carbon emissions (Banister 2008, 78–83). By contrast, the rise of smaller motorised vehicles, motorbikes, scooters, and e-scooters reflects a shift toward compact personal transport systems. Bicycles and sharing bikes represent a more environmentally benign alternative, enabling *city users* to traverse moderate distances with minimal spatial footprint and carbon emission (Sheller and Urry 2006, 209–12). Beyond their practical advantages, cycling systems and pedestrian-friendly policies contribute to a vibrant public realm, as they facilitate spontaneous social encounters and animate streets with human-scale movement (Gehl 2011, 38–45). Indeed, certain cities, like Copenhagen and Amsterdam, are renowned for cultivating a distinctive cycling culture that shapes the city's identity and inhabitants' daily practices.

Incorporating skateboards and personal e-transporters adds a layer of nuance to mobility dynamics and identity. These illustrate a fluid and creative approach to navigating and using urban space (Whyte 1980, 94–102). Much like bike-sharing, they underscore the importance of flexibility and multimodality; *city users* may switch between different modes during a single journey, choosing whichever option best suits their schedule, comfort, and budget, as well as providing moments of recreation. From a *Desirable Cities*' perspective, transport systems embody more than functional conveyance; they reflect socio-cultural values, environmental commitments, economic priorities and urban identity. For example, a robust public transport network demonstrates municipal investment in collective mobility. However, the proliferation of ride-sharing or bike-sharing platforms may denote a forward-thinking approach to collaborative consumption. These indicators affect a city's desirability for locals and shape visitor impressions, a great example of local sustainability and global competitiveness.

Altogether, these mobility options underscore the *Desirable Cities*' emphasis on flexibility, inclusivity, and environmental responsibility. In practice, such a broad palette of choices empowers city stakeholders to select the most suitable form of travel for any given purpose, reflecting both personal preference and collective well-being. Below is a concise list of transportation systems articulated by *Desirable Cities*:

Metro, bus, tourist bus, taxi, hiring car, private car, motorbike, tuk-tuk, scooter, bike, sharing bike, skate, and e-skate.

As Banister, Sheller and Urry emphasise, the sustainable mobility paradigm and the new mobilities paradigm view multiple transport systems as vital drivers of social interaction, economic vibrancy, and positive urban experiences (Banister 2008, 74–80; Sheller and Urry 2006, 207–26). Hence, the presence and integration of these modes

and the balance among them hold significant implications for desirability in the urban environment.

15.6. Places for people's activities

Similar to *cities' transport systems*, this framework connects people's activities with the spaces or the *constructural* environment, as people's activities rely on urban support infrastructure. Places are interactive stages upon which people enact daily life through various social activities. Gehl underlines that these activities, whether simple or elaborate, reflect the urban realm's functionality and symbolic qualities (Gehl 2011, 38–40). For instance, sitting and taking pictures may seem trivial, but they can reveal how inviting or visually stimulating public spaces are, indicating a city's sociability or aesthetic appeal. Similarly, Whyte observes that eating or conversing in plazas catalyses spontaneous social encounters, enhancing people's sense of belonging (Whyte 1980, 52–60). The repeated engagement in these everyday practices transforms otherwise ordinary locations into lively, memory-rich places. In addition, the extensiveness of activities that individuals can undertake, from formal pursuits like working or commuting to informal leisure such as dancing or skating, speaks to the adaptiveness of urban environments. When *city makers* acknowledge the diversity of these behaviours, they can create spaces that accommodate varied lifestyles, encouraging interaction and fostering community cohesion. Ultimately, designing cities to support these activities aligns with the *Desirable Cities*' framework by recognising the role of shared experiences in shaping collective identity and well- being, which contribute to urban *desirability*.

Although social activities often appear incidental, they gravitate around whether the urban infrastructure supports or constrains them. For example, designated pedestrian zones facilitate walking, running, and spontaneous gatherings, while well- placed seating and shaded areas encourage people to linger, converse, or observe the passing scene. In contrast, spaces dominated by vehicular traffic may restrict possibilities for public life, limiting engagement to hurried transit rather than leisurely activities. Furthermore, mobility, from biking, driving, and public transport, influences which social activities can flourish in a given environment (Banister 2008, 74–80; Sheller and Urry 2006, 207–26). A supportive network of bike paths, for instance, not only promotes healthier living but also enriches communal interaction by allowing people to discover neighbourhoods at a human pace. In essence, social activities serve as vital indicators of whether a city's design truly meets human needs and desires, both practical and emotional. When

urban settings encourage an array of actions, be they recreational, interpersonal, or task-oriented, they nurture a richer shared experience among city stakeholders, thereby elevating the city's desirability for diverse populations.

Through the preliminary studies, *Desirable Cities* identified the following people's urban activities: Working out, running, playing, sitting, lying down, taking photos, taking selfies, eating, drinking, shopping, biking, skating, driving, walking, working, thinking, calling, smoking, and dancing.

15.7. Places' harmonious-desirable experiences for life: Conclusions of Desirable Cities' constructural environment framework

The *constructural* environment, particularly the quality of public spaces and the coverage of the transport systems and places for people's activities, is a foundational pillar of a city's experiences. The framework demonstrates that when cities provide well-designed, accessible, and vibrant public spaces across various typologies, encouraging activities with accessible transport systems, they create positive experiences, strong community bonds, and a memorable city image. Each space and transport system type contributes uniquely to the urban fabric, from the monumental scale of sightseeing landmarks and metro systems to the intimate scale of benches to sit and bikes to reach those benches. They shape city stakeholders' experiences and feelings about the city, influencing everything from emotional attachment and pride to practical aspects like recreation and social interaction. A city that excels in these dimensions tends to be more liveable, sustainable, and resilient, aligning perfectly with the goals of the *Desirable Cities*' *holistic* approach.

For *city makers*, this underscores the importance of a *holistic* approach. *City makers*, collectively, must consider the city's morphology at multiple scales and ensure that investments in the *constructural* environment cater to ecological balance, human well-being, economic accessibility and communities' happiness. At the same time, the critical perspective from urban studies explains how public spaces must be inclusive and genuinely public, as their desirability is maximised when diverse groups of people feel welcome and engaged. These constructural insights set the stage for *Desirable Cities' holistic* approach, where perceptions and interpretations are integrated with the *natural* and *cultural* environments to explain how *Cities' PIDs* emerge and circulate.

16. *DESIRABLE CITIES' HOLISTIC* APPROACH FRAMEWORK

Building on Peirce's *Pragmaticism* as the guiding paradigm, *Desirable Cities* examines how cities' *natural*, *cultural* and *constructural* environments are perceived and interpreted (as signs "*VIII*", "*IX*", and "*X*", or in other words *emotions*, *actions* and *reflections*) and, from there, how these experiences are communicated among city stakeholders. The goal is to articulate a coherent, rigorous synthesis, expanding the theoretical depth and grounding arguments in evidence. Urban phenomena are part of a semiosis process involving the environment ("*object*"), the qualities of the environment perceived by people ("*representamen*"), and the interpretations that these perceptions trigger in people ("*interpretant*"). This lens will help articulate how cities' perceptions, stakeholder practices, urban communication models, semiotic analyses, and economic forces collectively shape the *desirability* of cities.

16.1. Cities' perceptions: Understanding people's perception of cities

Understanding how people perceive cities is crucial for *Desirable Cities*. Urban perception is not merely a passive reception of sensory data, but an active channelling of environmental qualities through physical sensory and culturally recognisable patterns (symbolism and imageries). In other words, perceptions are also shaped by culturally coded images affecting personal desires and societal narratives. In Peirce's terms, a city's physical form has perceptual qualities ("*representamen*") or sign vehicles. These cities' sign vehicles are images beyond visual qualities, as these images emerge from the phenomenological experiences, embedding sounds, smells, textures, etc., all with strong gratification power as in their "*thirdness*" pattern and symbols that satisfy people's desire to recognise the city's qualities. Thus, the city's perceptions are the city's phenomenological imageries that captivate people. Empirical observations from *Desirable Cities*' preliminary studies reinforce this theory by showing how city stakeholders perceived urban spaces. Such evidence of on-the- ground perceptions anchors the theoretical claims behind abstract concepts like "*spectacles*" or "*imaginaries*," within the urban scenes (Debord 2005, 7–25; Silva 2017). By examining cities' perceptions through these theoretical lenses, *Desirable Cities* highlights the power of urban imageries to shape desire. As Lacan's theory suggests, there is always a gap between the image and the fulfilment of desire; the city's perceptions may entice and evoke craving, but they can remain unsatisfied due to the shifting nature of the object of desire. This inherent tension

is central to understanding why cities strive to look desirable and how people respond to these efforts.

16.2. Cities' spectacles: Analysis of Debord's Society of the Spectacle

Guy Debord provides a critical lens to examine the prevalent influence of images in urban settings and their sources. He argues that societies' experiences have increasingly been supplanted by representations, leading to a state in which "*life is presented as an immense accumulation of spectacles*" (Debord 2005, 7). According to Debord, these spectacles are not merely collections of images, but social relations mediated by images. In other words, a city saturated with visual displays, be it grand architectural landmarks, themed commercial districts, or luxury shopping plazas, does not simply flaunt aesthetic choices; it projects an aspiration-view that can shape and determine social interactions, communal desires, and everyday behaviour.

At the heart of this argument lies the assertion that the spectacle is a materialised worldview that emerges from social powers yet appears internal and objective (Debord 2005, 8). This illusion of autonomy makes the spectacle exceedingly powerful: it obscures the fact that social forces have created it, encouraging citizens to accept the images at face value. Debord contends that such a process transforms direct experiences into representations, so seeing becomes synonymous with having. Iconic projects, such as museums by star architects, mega-events, and skyline- defining towers, highlight how modern cities prioritise image consumption to sustain global fascination. Meanwhile, everyday realities, such as local needs and desires, socio-economic inequalities, risk being eclipsed by highly curated "*visions*" favouring public *spectacle* over sustainable well-being.

In the broader debate on *Desirable Cities*, Debord's framework reveals the pitfalls of treating the urban environment primarily as an exhibition. If *city makers* focus on polished façades without engaging with deeper social, cultural, and economic layers, the resulting space might appear globally appealing yet alienate its population. The strength of the spectacle concept lies in highlighting how seductive urban imageries can temporarily unite communities and attract external resources, whether through boosted tourism, civic pride, or investment. However, overemphasis on appearances can gradually mask or exacerbate systemic inequalities, as citizens become "astonished and absorbed" by the curated imagery (Debord 2005, 7; Ibrahim 2015). Hence, while spectacle may invigorate

city branding or civic enthusiasm, it cannot, on its own, resolve core urban challenges like unaffordable housing, infrastructure deficits, or social exclusion.

Spectacles manufacture social relationships and condition economic priorities. By recognising that urban imageries do more than decorate public spaces, city stakeholders can remain vigilant about whose interests the spectacles serve. Debord's critique provides a caution and an impetus: if city stakeholders aspire to create truly liveable places, they must look beyond superficial glamour, ensuring that any spectacular development is aligned with broader ecological balance, social well-being, and thriving urban spaces. Meaningful inclusive growth emerges when societies' references are not merely an end, but one facet of an urban agenda dedicated to *holistic* experiences ecologically, socially and urbanistically.

16.3. Cities' imaginaries: Analysis of Silva's studies on Urban Imaginaries

Armando Silva's work on urban imaginaries expands the discussion of city perceptions by examining the internal, collective visions that communities craft to interpret and reshape their surroundings. He traces the evolution of language studies in the twentieth century, from linguistic to semiotic to aesthetic, arguing that such developments challenge the idea of a singular language capable of accounting for life's plurality (Silva 2017, 3). Silva emphasises that language operates within a realm of subjectivity and creativity, where neither the speaker's intention nor explicit statements fully capture meaning. This perspective orients one toward what Silva calls a "*hermeneutic suspicion*": language often does not say what it claims to say. Parallelly, the semiotic enterprise attempts to construct systematic methods for reading signs, drawing on the understanding that words, images, and other symbolic forms are more than direct representations; they are conduits through which societies produce, interpret, and reproduce realities, which should not be confused with the Real.

Silva connects semiotics to art from this theoretical stance, distinguishing between communicational-referential functions and the "*constructive and expressive*" dimensions that inform creative output (Silva 2017, 9). While language states or "*communicates*", art is "*done*", as it is a form of "*making*" that generates meaning on multiple levels. Silva identifies "social imaginaries" as collective ways of perceiving and behaving, driven by aesthetic and emotional experiences, extending this idea from art objects to urban environments. He emphasises that these imaginaries are not merely imaginary; they

actively shape social realities by making intangible notions, such as fears, aspirations, or cultural identity, palpable in the urban environment.

Silva offers a structured model for understanding urban imaginaries by outlining three principal modes in which the "*Real*" ("*R*") and the "*Imagined*" ("*I*") intersect, creating realities.

"*Я1 = IR*" (Urban Phantom). This category describes events, objects, or sensations that may not exist in an empirical Real yet persist in communal belief and can strongly influence daily life as realities. Silva cites the enduring perception of a foul smell on Hidalgo Avenue in Mexico City, even after the sewer system was repaired, as a salient example. Although the scent is no longer factually present, it remains subjectively there because people are still talking about it, illustrating how shared imagination can sustain a collective "*urban phantom*" (Silva 2017, 11).

"*Я2 = RI*" (Urban Invisibility). In contrast to "*Я1*", some aspects of the city empirically exist but are not integrated into community awareness. These unnoticed or forgotten elements constitute a city's "*invisibility*," remaining largely outside public discourse or cultural memory. Silva mentions areas like central Montevideo, which physically endure yet remain excluded from residents' dominant sense of place (Silva, 1997, p. 16). This dynamic signifies how a community can psychologically "*erase*" specific environments, rendering them invisible despite their tangible presence.

"*Я3 = R(I) = I*" (Urban Embodiment). Here, a given Real element of the city is actively reinterpreted or re-signified by collective imagination, thereby blurring the boundary between what is Real and how it is perceived into different realities. For instance, the Colpatria building in Bogotá is more than a physical structure: its changing illumination at night transforms its identity (Silva 2017, 16). Like the Impressionists' emphasis on depicting the ephemeral play of light, the building's shifting appearance underscores the evolving imaginative dimension that people attach to urban landmarks.

By situating these categories within broader cultural or historical contexts, Silva illustrates the plurality of "*urban imaginaries*" and how people consciously and unconsciously rewrite the city they inhabit. He views the city not as a static spatial entity but as a temporal and affective construct, always in a changing process. In contemporary examples, graffiti might externalise communal frustrations or dreams, making intangible sentiments visible. Alternatively, entire districts can become conspicuous if they evoke nostalgia or aspirations, while other neighbourhoods remain obscure, lacking emotional resonance, cultural promotion or recognition.

In line with this framework, later studies (Silva 2017, 16) and analogous research confirm that these imaginaries emerge from everyday interactions, cultural productions, and shared narratives. Such imaginative work holds notable power to inspire collective action or induce collective behaviour. Distinct from Debord's notion of top-down spectacles, Silva's urban imaginaries feature grassroots processes of meaning-making: people weave memories, realities and fantasies into their communal identity, often with minimal direct intervention from governmental or corporate agencies (social powers).

From a *Desirable Cities*' standpoint, the potency of Silva's thought resides in acknowledging that city stakeholders are not merely passive recipients of official visions. Instead, all co-produce the city's symbolic and imaginary essence. This co- production may conflict with formal planning agendas if imaginative narratives challenge commercial or political interests or converge with them when a municipal branding initiative aligns with *city users*' cherished self-images. It raises key questions: whose vision dominates the city's narrative, and whose is marginalised? How might *city makers* incorporate dynamic imaginaries instead of imposing rigid aesthetics?

Ultimately, Debord's and Silva's analysis encourages *city makers* to engage deeply with the *city users'* symbolic and imaginary views of the city. He shows how even intangible ideas can manifest materially, shaping behaviour and forging tangible urban experiences that exceed what *the constructural* environment aims at. Such attention to social imaginaries and spectacles offers a crucial route to fostering cultural diversity, creativity, and vitality, in city development. It implies a model of city development that supports dialogue among varied disciplines and communities, enabling more comprehensive ways to analyse cities' perceptions from urban experiences. Central to this synthesis is the concept of cities' *Phenomenological Imageries of Desire* (*Cities' PID*s), a term coined by *Desirable Cities* to encapsulate how people perceive, experience, and ascribe meaning to urban spaces.

16.4. *Cities' Phenomenological Imageries of Desire* (*Cities' PIDs*)

Desirable Cities' definition of cities' *Phenomenological Imageries of Desire* or *Cities' PID*s is a unifying concept, and a unit of analysis, that combines diverse theoretical perspectives on urban perception, interpretations, and aspirations, through its experiences. This unit of analysis articulates the city stakeholders' responses (*emotions*, *actions* and *reflections*) with the components of the environment (*natural*, *cultural* and *constructural*). Therefore, *Cities' PID*s refer to the individual collective sensory and

mental phenomenological imageries through which city stakeholders interpret their urban environment. Essentially, the felt experience of the city emerges from semiotic impressions of the lived experience, and its socio-cultural meanings are memorised as phenomenological imageries. By integrating insights from semiotics, phenomenology, sociology and psychoanalysis, the *Cities' PID*s provides a comprehensive understanding and comparative unit to analyse how individuals engage with the city spaces. This analysis leads to the emergence of a collective urban desirability that combines physical attributes, economic conditions, and phenomenological nuances, which are legible and meaningful to city stakeholders within a specific period.

Desirable Cities adopts Peirce's notion of the *interpretant* to systematically investigate how different people might derive diverse meanings from the same urban object, thereby affecting its interpretation of desirability. Peirce's triadic model (*sign- object-interpretant*) provides a language for unpacking the communicative dimension of urban design and for recognising the city as a living language of signs. John Dewey's aesthetic theory further enriches the concept of *Cities' PID*s by emphasising experience and emotion. Dewey argued that aesthetic experience arises from an active, harmonious interaction, between a person and their environment, leading to fulfilment and meaning (Dewey 1995, 35). In the everyday urban setting, this translates to the idea that city life should offer moments of integral experience, where the sights, sounds, and activities coalesce into a satisfying whole. Dewey famously noted that art and aesthetics are not confined to galleries; "art in experience" can be found on a bustling street corner, a serene park, or an architecturally uplifting plaza (Dewey 1995, 10). *Desirable Cities* builds on this perspective by advocating for urban designs prioritising fulfilling experiences. The notion of phenomenological images inherently involves the quality of experience, as a city's scene becomes desirable if it consistently offers positive, enriching interactions for its people. Thus, Dewey's insights adapted to *Cities' PID*s support the *Desirable Cities* aim to understand how the city looks and feels and how those feelings contribute to collective imageries of the city's *desirability*. The *constructural* form of the city, its architecture and spatial layout, is another critical component that *Cities' PID*s measure as a unit of analysis. Umberto Eco's work on architectural semiotics suggests that buildings and spatial designs function as complex systems of signs communicating cultural and social meanings. In Eco's framework, any architectural element has a denotative aspect (its basic functional form) and a connotative aspect (the symbolic or cultural meanings attached to that form). For instance, a courthouse's denotative function is to host legal

proceedings. Still, its connotative meaning might include notions of authority, justice, or tradition, communicated through grand columns or a high pedestal entrance. Similarly, Donald Preziosi described architecture as a language with syntax and semantics (Preziosi 1979, 15–22). From this viewpoint, one can "*read*" a city's layout or a building's facade much like a text, parsing its use of materials, styles, and spatial organisation as conveying messages. *Desirable Cities* leverages these ideas by treating urban environments as narratives that can be intentionally crafted and interpreted. The concept of *Cities' PID*s incorporates Eco's and Preziosi's insights by decoding the symbolic content of urban design, from which the forms and styles in a given city district or public space evoke a recognisable sense and invite certain social behaviours. By understanding architecture as a communication medium, the *Desirable Cities*' approach aims to study and analyse urban spaces in terms of the messages associated with the recognisable imageries that city stakeholders "*read*" on city spaces.

While positive experiences and their resulting imaginaries can make a city desirable, *Desirable Cities* also critically examines the mediated imaginaries that can distort or replace authentic urban life. In urban terms, the "*spectacle*" manifests in everything from flashy billboards and *Instagrammable* experiences to commodifying historic districts or popular spaces (Ibrahim 2015). Debord and Ibrahim warn that when people passively consume these mediated images, they may lose the ability or opportunity to engage genuinely with the environment. For *Desirable Cities*, this raises a crucial point of focus, already mentioned, in which a *desirable* city must be *holistic*, including Earth's ecological balance, social well-being, and thriving urban spaces. For example, suppose an urban environment is engineered only to look attractive (for instance, via marketing campaigns or polished spaces); in that case, it might satisfy the image of appealing while failing to provide satisfying lived experiences, creating a gap between representation and authenticity. *Cities' PID*s address this variable as an analytical measurement.

In this regard, the *Cities' PID*s framework explicitly integrates Debord's perspective by encouraging a critical eye toward how spectacular imageries are. It asks: Are cities designing public spaces for genuine interaction or merely for photo opportunities? How do advertising, social media, and other media systems influence what city stakeholders desire in their city? Empirical findings from *Desirable Cities*' preliminary studies, like the *Shanghai Mapping*, revealed how digital media like Xiaohongshu's (小红书) and Instagram's curated posts heavily influenced how people gathered and experienced popular locations, demonstrating the thesis that mediated representations shape urban

behaviours. Therefore, acknowledging "*spectacles*" within *Cities' PID*s means encouraging authentic engagement with genuine ecological, social, and physical experiences, in the city.

Complementing Debord's critique of imposed images, Silva's concept of urban imaginaries focuses on the collective images and narratives that city residents construct about their city. Urban imaginaries are the shared mental models, dreams, and storylines through which a community understands its city. These could be myths of the city's origin, popular nicknames for neighbourhoods, or widely held perceptions (e.g., "that district is trendy and creative" or "this part of town is dangerous"). Silva's research in Latin American cities shows that such imaginaries are powerful: they shape how people behave and even how city officials plan, as development agendas often try to reinforce or change prevailing narratives. Within *Cities' PID*s, urban imaginaries are a key phenomenological layer; they are essentially the stories that populate the city's collective consciousness and influence desirability. A city might be objectively well-equipped, but if its image in the public imagination is poor, it will struggle to be desirable. Conversely, a strong, positive shared image (e.g., as a city of opportunity or culture), can enhance civic pride and desirability even in the face of challenges.

Desirable Cities incorporates Silva's approach by using methods to surface these imaginaries (through detecting community narratives, mapping mental images, etc.) and recognising them as a legitimate component of urban realities to be addressed. Engaging with urban imaginaries means listening to people's stories about their city and possibly co-creating new narratives that align with holistic, desirable goals. This emphasis on collective meaning-making reinforces the semiotic framing: desirability is partly a semiotic product of how people signify their city in discourse and memory. By addressing urban imaginaries, *Desirable Cities* ensures that the *Cities' PID*s framework remains grounded in the subjective reality of communities – those "images in the mind" that, as much as any material factor, determine whether people feel attached to and pleased by their city.

In studying both spectacles and imaginaries, the role of visual media is paramount. Gillian Rose's work on visual methodologies and tools for critically analysing photographs, maps, and other visual representations of the city emphasises that visuals are never neutral; they carry implicit power dynamics and cultural narratives that can reinforce or challenge how a city is perceived, which aligns with Peirce, Debord and Silva. For example, official city marketing images might depict gleaming skyscrapers and happy

families in parks, projecting an idealised vision that may gloss over inequalities. Grassroots photo projects, on the other hand, might highlight neglected neighbourhoods or everyday street life, offering a counter- narrative. By applying Rose's visual analysis within *Cities' PID*s, *Desirable Cities* examines how such images influence urban desirability. If a city's dominant images are exclusionary or overly idealised, they might create dissatisfaction or marginalise certain groups' experiences. Contrastingly, inclusive and authentic visual narratives can make a city more comprehensible and relatable to its stakeholders.

In practical terms, *Desirable Cities* uses techniques like photo-elicitation and participatory mapping (as done in the Shanghai *Picture-naire* and *Photo-naire* exercises) to gather visual data on how people see their city. These methods feed into *Cities' PID*s by revealing which visual elements (skyline views, street art, signage, etc.) are most noticeable in forming positive or negative city images. Rose's emphasis on the critical interpretation of visual culture ensures that *Cities' PID*s account for the seen aspect of urban life, the photos, videos, and maps through which people increasingly experience cities, and treats it as a significant factor in perceptions, interpretation, and most importantly, desirability.

Moving from collective imagery to the individual psyche, Lacan's psychoanalytic theory provides another layer to *Cities' PID*s. Lacan introduced the concept of the signifier, a symbol or word that has meaning within the "*symbolic*" order, the realm of shared language and culture. In an urban context, one can think of signifiers as the many symbols that constitute a city's identity: street names, architectural styles, monuments, even local slang. These are part of the city's "symbolic" order, shaping how individuals locate themselves within the urban system. Lacan also spoke of the "*imaginary*" (the domain of images and perception, tied to how we imagine ourselves and others) and the "*Real*" (the unknowable energy and matter from which "*imaginary*" and "*symbolic*" orders are constructed). A city stakeholder's experience engages all three: the Imaginary might involve one's mental image of the city, the symbolic involves the shared conventions (understanding that a red traffic light means stop, or that a specific neighbourhood is associated with luxury), and the "*Real*" is the raw, tangible conditions. Within the *Desirable Cities*' framework, Lacan's idea that unconscious signifiers (from which desires emerge) drive people is used in *Desirable Cities* to explain some of the irrational or non-utilitarian aspects of urban desirability. For example, a person may be drawn to live in a city because of a glamorous image internalised in childhood, even if practical factors like the cost of living are adverse.

Desirable Cities leverages Lacan's theory by recognising that, beyond a rational approach to urban experiences, desire plays a role, in which people's expectations towards desirable urban experiences gravitate around articulated signifiers with fantasies or urban phenomenological imageries (*Cities' PID*s). The *graph* related to desire proposed by Lacan, which maps the relationship between people, the possibilities of cultural predeterminations, and the object of desire, along with its references to the imageries obtained from social interactions, has been conceptually adapted to urban analysis. In this adapted view, the city itself can play the role of cultural predeterminations, a locus of social norms and expectations that people (city stakeholders) respond to. Urban tangible elements are where urban situations occur (or virtual images are filmed, like in the case of social media posts and movies). These physical or virtual experiences are memorised as signifiers that can either satisfy or perpetuate a city stakeholders' desires for belonging, status, or identity in relationship with their city, which can be extracted from *Cities' PID*s by the symbolism and imaginaries that are expressed within the metaphors and metonymies that people attached to their imageries.

Girard's theory of mimetic desire complements this social-relational dimension in its discussion of desire. Girard asserts that much of human desire is mimicked from others, as people often want things because others want them, leading to a triangular relationship between self, other, and the desired imagery (Girard, 1961). In cities, mimetic desire can heavily influence trends and perceptions of desirability. For instance, if a particular district becomes popular among artists and is subsequently wanted by affluent residents, others will imitate that desire to live there (*imageries*), driving gentrification as everyone competes for the same fashionable neighbourhood. This reference to others can be traced back, revealing where people's *Cities' PID*s originated or were associated.

The preliminary studies of *Desirable Cities*' *Shanghai Mapping* found evidence of this phenomenon. Areas that gained social media popularity quickly became sought after by new visitors who wanted to experience the same things they saw on physical and virtual encounters. This illustrates a mimetic pull where the desire for specific urban experiences is amplified by seeing peers and other city stakeholders having that same experience, suggesting that the value of urban spaces and its experiences often arises from social values rather than objective qualities. Hence, through the use of *Cities' PID*s, *Desirable Cities* elicits city stakeholders' imageries, organising and analysing them based on their sources, whether from conscious associations (metonymy), or unconscious references (metaphors). This process distinguishes whether these imageries come from: (1) the city's space itself (*natural*, *cultural* and *constructural* elements), (2) other city stakeholders

(*city makers* or *city users*), and/or (3) the context (*city makers*' context, environmental -*natural*, *cultural* and *constructural*- context, or *city users*' context). See *Image 120*: *Cities' PIDs as the bridge between people's expectations and their environment*.

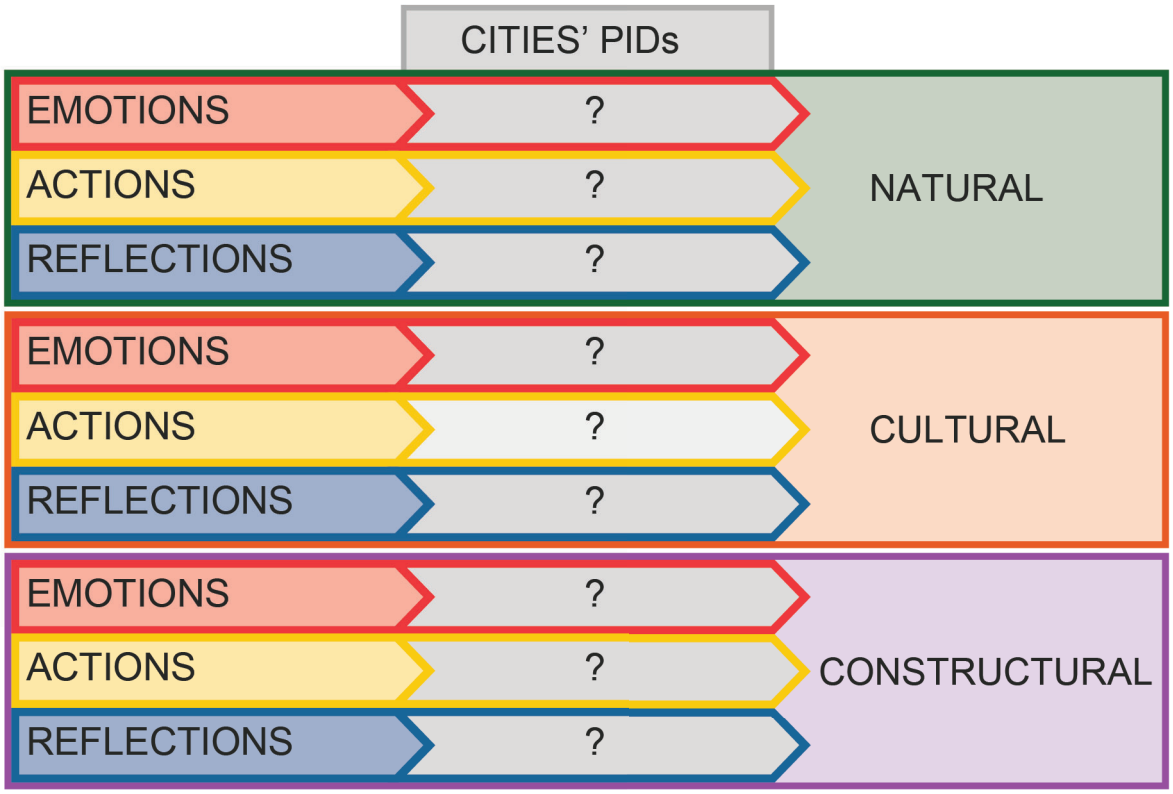


Image 120. *Cities' PIDs as the bridge between people's expectations and their environment.*

Together, these theories and reflections allow to define *Cities' PIDs* as a multi-faceted concept that addresses semiotic urban processes (systems of urban signs and signifiers), through phenomenological experiences (grounded in sensory and emotional memories, concerned with how things appear to consciousness), linked to *desirable* imageries (shaped by conscious and unconscious aspirations rooted in personal experiences or references gravitating towards mimesis). The *Cities' PIDs* framework articulates that a city's overall desirability emerges from the interplay of all these factors in the minds and behaviours of city stakeholders. By understanding a city's symbolism and imageries, its experiential qualities, its dominating interpretations and hidden narratives, the expectations of city stakeholders towards desirable urban experiences can be identified, understood and communicated. Therefore, *Desirable Cities uses Cities' PIDs as a measurable analytic unit to elicit desirable urban experiences and raise awareness and facilitate* communications, ultimately promoting satisfaction through a *holistic* approach to city development.

16.5. Cities' *holistic* development for life: Conclusions for *Desirable Cities*' holistic approach

This comprehensive theoretical framework is designed to move beyond the material-centric focus of traditional urbanism. It argues that pursuing genuinely desirable cities, with places that support a harmonious life, requires a *holistic* and *interdisciplinary* approach that fundamentally rebalances the relationship between the *natural*, *cultural*, and *constructural* environments. This conclusion synthesises the core arguments presented, demonstrating how the *Desirable Cities* framework provides a robust theoretical foundation for understanding and shaping the urban experiences of the future.

The framework is anchored in urban *Pragmaticism*, an adaptation of Peirce's philosophical system. This paradigm provides the intellectual architecture needed to bridge objective environmental conditions with the subjective experiences of city stakeholders. By adopting Peirce's phenomenological categories, the framework establishes a clear and logical hierarchy: *Firstness*, the realm of pure potential and quality, corresponds to the *natural* environment, the non-negotiable foundation for all life. *Secondness*, the domain of interaction and existence, aligns with the *cultural* environment, where human perception, social dynamics, and collective desires emerge. Finally, *Thirdness*, the order of law and mediation, is reflected in the *constructural* environment, the built fabric of the city. This triadic structure reinforces a core principle of this thesis: a desirable *constructural* environment cannot be achieved without a healthy *cultural* environment, and neither can exist without a balanced and sustainable *natural* environment.

Building on this Peircean foundation, the framework integrates insights from various disciplines to articulate the complex dynamics of each environmental layer. The *natural* environment is positioned as the life-sustaining system upon which all urban vitality depends, drawing on ecological science to underscore the urgency of sustainability. The *cultural* environment is explored as the realm of meaning-making, where human perception is understood not as a passive act but as an active, co- creative process of "*natural drifting*" and "*structural coupling*" (Maturana and Varela 1992, 17–235), a concept which *Desirable Cities* has adapted as *urban drifting*. Here, desires emerge, shaped by the unconscious "*signifiers*" explained by Lacan and the "*mimetic*" impulses described by Girard, which together explain the powerful, often unconscious, attachments people form with urban spaces. The *constructural* environment is then analysed as the tangible stage for these dynamics, where the morphology of public spaces, transport systems, and places for activities directly shapes human behaviour and experience.

The true innovation of this framework, however, lies in its synthesis of these objective environmental components with the subjective interpretations of city stakeholders. This is achieved through the concept of *Cities' Phenomenological Imageries of Desire* (*Cities' PIDs*), the culminating analytical unit of this theoretical exploration. *Cities' PIDs* are the individual and collective imageries through which people perceive, interpret, and aspire to experience their urban environment. These imageries are not neutral but are charged with meaning derived from cultural symbolism, mediated "*spectacles*" (Debord 2005, 16–25), and shared "*urban imaginaries*" (Silva 2017, 177–84). As the bridge between the environment and the individual, *Cities' PIDs* connect the *natural*, *cultural*, and *constructural* components of the city to the psychological responses they trigger in city stakeholders: their *emotions*, *actions*, and *reflections*. They are, in essence, the semiotic key to unlocking and articulating the often-tacit expectations people hold for a desirable urban life.

Accordingly, a constructural solution becomes desirable only insofar as it remains culturally legible and ecologically responsible; *Cities' PIDs* make this dependency empirically tractable. This theoretical framework establishes a new lens for viewing and evaluating cities. Moving from the foundational paradigm of urban *Pragmaticism* through the interdependent environmental layers and culminating in the analytical concept of *Cities' PIDs* provides a coherent and rigorous basis for a more human and ecologically responsible approach to urbanism. This framework is not merely a theoretical abstraction; it is the essential groundwork for the practical methods and tools that will be developed and tested in the subsequent parts of this thesis. It sets the stage for an empirical investigation into how desirable cities can truly be developed for all by making these phenomenological imageries visible and communicable. The following part translates this synthesis into operational models, demonstrating how communications, semiotics and economics can be adapted to develop *Desirable Cities'* methods and tools.

FRENCH SUMMARY OF PART FOUR

APPLICATION THÉORIQUE DE *VILLES DÉSIRABLES*

17. INTRODUCTION A L'APPLICATION THÉORIQUE DE *VILLES DÉSIRABLES*

L'analyse des *acteurs de la ville* et de la communication urbaine offre des aperçus sur les rôles et les processus de communication au sein du développement de la ville. *Villes Désirables* s'inspire de de Certeau 2013, Bühler 2011 et Jakobson 1978 pour articuler un modèle *interdisciplinaire* et *holistique* englobant des dynamiques économiques et sémiotiques complexes d'où émergent les attentes des acteurs envers des *expériences urbaines désirables*.

Les acteurs de la ville

Les espaces urbains sont produits par la société et façonnent en retour les relations sociales. *Villes Désirables* distingue les *créateurs de villes* (décideurs politiques, urbanistes, promoteurs, architectes, ingénieurs) qui conçoivent, réglementent, financent ou construisent les espaces urbains, des *utilisateurs de la ville* (résidents, navetteurs, visiteurs) qui interagissent avec les espaces urbains dans leur vie quotidienne.

Les *créateurs de villes* possèdent une orientation *stratégique* à travers un pouvoir de décision formel, bien qu'ils parlent rarement d'une seule voix — les décideurs politiques privilégient l'éligibilité, les urbanistes favorisent les stratégies à long terme, les promoteurs se concentrent sur la rentabilité, les architectes sur l'esthétique. Les *utilisateurs de la ville* exercent des *tactiques* en adaptant leur environnement — en créant des jardins communautaires ou en réaffectant des places en aires de jeux. Leurs désirs sont centrés sur des préoccupations pratiques ainsi que sur des aspirations intangibles comme l'identité communautaire.

Le cadre encourage une vision *holistique* examinant l'autorité formelle aux côtés des expériences quotidiennes, reconnaissant les déséquilibres de pouvoir et les synergies, fournissant un moyen structuré d'identifier les attentes de tous les acteurs, garantissant que la croissance urbaine reflète la vie sociale et culturelle.

Modèle de communication urbaine

Villes Désirables fonde ses explorations sur les modèles de Jakobson (1978) et de Bühler (2011), qui fournissent un vocabulaire pour la communication urbaine. Le modèle de Jakobson comprend six « *facteurs* » : le DESTINATEUR envoie un MESSAGE au DESTINATAIRE, intégré dans un CONTEXTE, utilisant un CODE, à travers un CONTACT. Chacun a une « *fonction* » correspondante : *émotive*, *conative*, *référentielle*, *phatique*, *métalinguistique* et *poétique*.

En adaptant cela au développement de la ville, les émetteurs/créateurs sont mus par la nécessité/le désir de s'exprimer tandis que les récepteurs cherchent à comprendre. Tous les processus (sélection, composition, matérialisation) impactent trois environnements (*naturel*, *culturel*, *construit*) à trois échelles. Les C*ities' PIDs* émergent comme le « *code* » que les *créateurs de villes* encodent et que les *utilisateurs de la ville* décodent.

Le modèle fournit un catalogue de points focaux : le style du *créateur de villes* produit l'*image de marque* (*branding*) ; l'accent mis sur les *utilisateurs* produit l'usage *intuitif* ; le système matériel produit l'*architectonique* ; la composition produit le *stimulant* ; le contact espace-utilisateur produit l'*interactif* ; l'accent mis sur l'environnement produit le *durable* (*urbanistique*, *distinctif*, *écologique*).

Modèle sémiotique urbain

Le pragmatisme expérientiel de Dewey (1995) relie la construction du sens à travers l'interaction vécue — « avoir une expérience » signifie un engagement profond où les participants prennent conscience de la manière dont leur environnement les façonne et réciproquement.

Preziosi (1979) soutient que l'architecture fonctionne comme un langage « lu » pour transmettre des messages, les éléments architecturaux agissant comme des structures linguistiques qui communiquent des valeurs. Eco démontre que l'architecture est un système de signes complexe où la fonction et le signe sont inséparables — les toits fonctionnent en couverture (couvrant) mais signifient la protection. Il distingue les fonctions pragmatiques des fonctions sémantiques, incluant la dénotation, la connotation et le mythe/la rhétorique.

Les conceptions « fermées » guident rigidement les utilisateurs tandis que les conceptions « ouvertes » permettent des interprétations diverses, manifestant l'enquête pragmatique et la construction sociale du sens à travers la « coproduction » entre les *créateurs de villes* et les *utilisateurs de la ville*.

Modèle économique urbain

L'économie urbaine influence la désirabilité par l'emploi, le coût de la vie et la prospérité symbolique. « L'économie symbolique » de Zukin (2010) montre que le redéveloppement urbain s'appuie sur des éléments culturels pour attirer les investissements, bien que la marchandisation risque d'affecter l'authenticité et de déplacer les communautés.

Villes Désirables adapte le *Business Model Canvas* pour les villes : les segments d'acteurs deviennent les *attentes des acteurs de la ville* ; les propositions de valeur deviennent les *expériences urbaines désirables* ; les canaux deviennent la *communication des créateurs de villes* ; les relations deviennent les *retours des utilisateurs de la ville* ; les ressources deviennent les *ressources urbaines disponibles* ; les activités deviennent les *outils et processus urbains* ; les partenariats deviennent les *partenariats de développement urbain* ; les coûts incluent les investissements *naturels*, *culturels* et *construits*.

Ce canevas clarifie les conflits, la répartition des bénéfices, assurant l'alignement avec les objectifs environnementaux et sociétaux.

Synthèse de l'application théorique

Le cadre intègre la durabilité écologique, la perception humaine, la morphologie urbaine, l'interprétation sémiotique, les rôles des acteurs, la communication et les forces économiques. Les attentes naissent de l'interaction entre : la forme physique de l'environnement ; les perceptions, interprétations, aspirations, réponses des individus ; les comportements collectifs ; les processus de communication ; les systèmes économiques.

Villes Désirables redéfinit la désirabilité urbaine comme une force englobant les conditions matérielles et les dimensions symboliques-imaginaires. Le cadre sert de médiateur — non pas en rejetant les formules classiques, mais en les intégrant dans

un contexte sémiotique plus large où les villes véritablement *désirables* alignent leurs caractéristiques avec les attentes des acteurs à travers une approche *holistique*.

18. APPLICATION EMPIRIQUE DE *VILLES DÉSIRABLES*

Villes Désirables adopte une stratégie multi-méthodes avec l'analyse sémiotique ; les méthodes ethnographiques ; et les outils visuels pour identifier systématiquement les expériences partagées à travers les *Cities' PIDs*.

Les revues de l'Urban Laboratory montrent que le *pragmaticisme* de Peirce (1933,1960) est mis en œuvre dans divers domaines. Les analyses axées sur les signes révèlent comment le marketing/les expressions influencent les masses humaines, stimulent la fierté collective ou signalent les tensions sociales. Le cadre fusionne l'analyse des signes avec le travail de terrain ethnographique, reconnaissant les déséquilibres de pouvoir et les récits culturels.

L'analyse sémiotique urbaine emploie les méthodologies de Rose (2016) en examinant la production, l'image, la circulation, l'audience — situant les images dans des contextes pour révéler comment les messages visuels portent des valeurs sociales.

L'ethnographie urbaine révèle les facteurs intangibles qui impactent la perception. Lynch a identifié cinq éléments (*chemins*, *limites*, *quartiers*, *nœuds*, *points de repère*) que les gens utilisent pour comprendre le tissu urbain, ouvrant l'exploration de la manière dont les pratiques et les souvenirs façonnent le sens du lieu.

Les outils visuels urbains — caméras, cartes, canevas — capturent les perceptions, interprétations, aspirations, réponses. Les outils comblent le fossé entre les observations du chercheur et les réalités des participants, permettant de «montrer» plutôt que de « dire ». Les cartes stimulent le dialogue à travers des visuels dont on peut faire le tri. Le canevas fournit des modèles pour structurer graphiquement des systèmes complexes.

L'intégration permet des expressions viscérales de la compréhension urbaine. Traiter les outils comme des représentations environnementales où les *Cities' PIDs* émergent relie la méthodologie au *pragmaticisme*, capturant les aspects esthétiques/

émotionnels tout en incitant à un engagement plus profond des acteurs, promouvant l'identification et la communication conscientes des attentes en matière d'*expériences urbaines désirables*.

PART FOUR.
DESIRABLE CITIES' THEORETICAL APPLICATION

19. INTRODUCTION TO *DESIRABLE CITIES*' THEORETICAL APPLICATION

Analysing city stakeholders and urban communication provides insights into the roles of different stakeholders within the development of cities and the communication processes that emerge between the different groups of stakeholders, *Desirable Cities* draws from de Certeau, Bühler, and Jakobson, to articulate an *interdisciplinary* and *holistic* model of city development and its required communication process, including the complex economic and semiotic dynamics, shaping city stakeholders' expectations towards desirable urban experiences.

19.1. Cities' stakeholders: Understanding cities' stakeholders, from the urban spaces production to the urban experiences within the *Desirable Cities*' framework

Urban spaces are produced by society, and, in turn, they shape social relations too (Lefebvre, 1974). To understand desirability, one must identify who is doing this production and who is consuming or experiencing the results of that production. From the first preliminary study, *Desirable Cities* draws a broad distinction between *city makers* and *city users* to categorise city stakeholders. *City makers* can design, regulate, finance, or construct urban spaces (e.g., policymakers, urban planners, real estate developers, architects, designers, engineers, builders, and allied professionals). *City users* primarily engage with urban spaces in everyday life (e.g., residents, commuters, and local and foreign visitors). Of course, these roles can overlap; for example, a resident might be an activist trying to shape policy (a *user* acting as a *maker*). Nevertheless, these main distinctions help clarify different interests.

Desirable Cities' preliminary analysis of professional experiences indicated that mismatches between *city makers*' intentions and *city users*' expectations are a common source of urban dissatisfaction. For instance, a city administration might prioritise an infrastructure project for economic growth (*maker* perspective), while residents might value preserving a park for recreation (*user* perspective). A genuinely desirable city must negotiate between such perspectives, aligning top-down strategies with bottom-up needs and desires. *Desirable Cities* applied de Certeau's work on "*strategy*" and

"*tactic*" to explore this dynamic. It examined how it classifies and visualises stakeholder roles, analysed how power is distributed, and considered how expertise could maintain proficiency to articulate city stakeholder agendas and expectations in harmony. Thus, this categorisation underscores the essential duality in city life. While some city stakeholders shaped and regulated urban space, others experienced and modified the spaces through everyday practices. The framework establishes these categories and highlights the tension and complementarity between institutionalised control and on-the-ground, lived realities.

City makers are individuals or groups whose actions decisively shape the urban landscape and its governance. They encompass policymakers, urban planners, real estate developers, architects, engineers, and other professionals with formal decision-making power on city development. Whether setting zoning regulations, designing master plans, or financing project developments, they possess a *strategic* orientation, aiming to achieve specified political, economic, social, or aesthetic goals. Yet these actors rarely speak with a single voice. For example, policymakers, such as Mayors may prioritise short-term electability by investing in visually striking developments, planners might favour long-term urban strategies, real estate developers might focus on profitability, architects on aesthetics and their branding, engineers focus on structural stability, and builders on construction efficiency.

City users, in contrast, experience and animate urban spaces rather than controlling them. This broad category includes residents, commuters, and local or foreign visitors. This can also include social marginal groups like street vendors or the homeless. Their desires often centre on practical concerns, like safety, housing quality, available infrastructure, and more intangible aspirations like community identity, cultural belonging, leisure opportunities and improvements over time. Far from passively consuming the environment, *city users* exercise *tactics* when adapting their surroundings. Residents may foster community gardens in unused lots, or families might repurpose a disused public square as an informal children's play area. Consequently, they collectively shape the city's atmosphere and cultural fabric, often in ways *city makers* do not anticipate.

A key insight emerging from this dichotomy is that *city makers* and *city users* sometimes clash over their agendas. A glossy residential complex may appeal to investors yet alienate local inhabitants if it inflates housing costs or displaces small businesses. Conversely, grassroots improvements that enhance everyday quality of life, such as pop-up markets and communal art projects, could be overlooked in official planning

metrics focused on economic development or global prestige, all against the backdrop of an ecological crisis caused by climate change. By explicitly distinguishing between making and using processes within city development, the *Desirable Cities* framework encourages a more holistic view of urban studies and city development, examining who holds formal authority alongside who enacts everyday experiences, recognising where power imbalances lie and where latent synergies could flourish. It also facilitates effective communication. In this sense, the *Desirable Cities*' approach provides a structured means of identifying the voices and expectations of all city stakeholders, catalysing communications and negotiations, and ensuring that urban growth remains reflective of social and cultural life.

To visualise the complex web of city stakeholders and their internal relationships, *Desirable Cities* developed a graph of the city stakeholders. The graph is essentially a network mapping influences and flows between different stakeholder groups. It is informed by the *strategy* and *tactic* dichotomy and empirical observations from *Desirable Cities*' preliminary studies, with the idea of improving communication and ensuring stakeholder feedback loops. As shown in *Image 002*: *City stakeholders' strategic and tactical interactions*. See *Image 002* at page 35.

Thus, *Desirable Cities* encourages a *holistic* perspective by recognising the interplay between macro-level governance and micro-level experiences. The potential for synergy lies in whether formal visions embrace the diverse voices. By fostering communication, cities stand a better chance of achieving genuinely desirable environments that accommodate practical and emotional needs and desires.

19.2. Urban communication model: Understanding interactions and communications among cities' stakeholders

Having identified the key stakeholders in urban development, *Desirable Cities* turns to the communication and interaction processes among them. A city is not just a physical space, it is also a web of messages constantly being sent and received, like plans being explained, signs being interpreted, feedback being given, and cultures being expressed. One can analogise a city to a complex communication system where buildings, people, and media convey information. This section examines models of communication (from linguistic theory). It adapts them to the urban context, enabling them to understand how information flows can enhance or hinder the communication of *desirable* experiences.

By understanding the communication of city stakeholders, *Desirable Cities* can facilitate their adequate understanding for future collaboration, ensuring that the urban "messages" align with the intended "meanings" and goals.

Desirable Cities grounds these explorations in Jakobson's and Bühler's communication models. These theories provide a precise vocabulary for elements of communication that can be translated into urban terms. The *Desirable Cities* framework explicitly incorporates these models, aligning with the *Pragmaticism* paradigm as a foundation for developing a tailored communication model for urban studies and city development.

19.2.1. Introduction to Jakobson's model of communication

Roman Jakobson created a model of communication in 1958, at a multidisciplinary conference addressing the problem of "*the nature and characteristics of style in literature"* (Ashton 1978, v), where he "*presented over-all summaries of the results of the conference and its implications*" (Sebeok 1978, 3). In his closing statement, Linguistics and Poetics, Jakobson emphasised that A) poetics can exist outside the boundaries of linguistics, and B) literary studies are broader than literary criticism. Jakobson's examples of poetic compositions in illustrations, pictures, and films demonstrate that poetics is not exclusive to language but is an essential property of any system of signs. Thus, he expanded the definition of poetics beyond linguistics into semiotics and aesthetics, which allows it to connect with urban semiotics. In *Desirable Cities*, a semiotic analysis helps to understand the communication between city stakeholders and their urban environment, while an aesthetic analysis evaluates the quality of that communication and the experience it produces. The poetic function is the bridge between the two, as it is the semiotic mechanism that most directly engages people's aesthetic sensibilities.

Crucially, the bridge between Jakobson's linguistic structuralism and its application to spatial and lived experience was masterfully articulated by Elmar Holenstein. Holenstein demonstrated that Jakobson's model was not merely a formal linguistic schema but a "*phenomenological structuralism*", deeply connected to the work of Husserl, Peirce and Merleau-Ponty (Holenstein 1976, 1–5, 12, 19, 47–51, 157–58, 184). He revealed how Jakobson's linguistic functions correspond to different modes of human consciousness and intentionality. While Holenstein's work provides essential philosophical grounding for applying Jakobson's ideas beyond pure linguistics, his analysis remains largely at the theoretical level of language and philosophy. The primary contribution of *Desirable Cities*, therefore, is to take the next step: to operationalise phenomenological interpretation of

Jakobson's model and adapt it into a tangible, graphic framework specifically for the analysis and creation of the built environment. Where Holenstein connected Jakobson to phenomenology, this research connects that phenomenological-semiotic understanding to the practical, strategic developments of *city makers* and the *tactical* experiences of *city users*.

Jakobson demonstrates in his presentation that language exists in a continuum with space-time, illustrating that the full dimensions of literary studies can flourish by considering both diachrony and synchrony. With diachrony, he addressed the development of literary studies over the entire space-time, just like Lacan addresses the "*Signifiers*". With synchrony, he addressed the specific language conditions at a given moment in time, also aligning with Lacan, who knew the work of Jakobson, likening it to his work on metaphor and metonymy (Lacan 2006, 502). By highlighting these dual dimensions, Jakobson demonstrates the limitations of literary criticism when it is centred on "*the description of the intrinsic values of a literary work*" (the work's synchronic dimension), missing all the significance and connection within the diachronic dimension (Jakobson 1978, 351–52). Therefore, this dual consideration of synchronic and diachronic, expanded beyond linguistics, can be applied to any semiotic or aesthetic study.

Although Jakobson pays more attention to the importance of combining synchrony and diachrony within language studies, he shifts his attention to creating "*a concise survey of the constitutive factors in any speech event*" (Jakobson 1978, 353), which summarises all the components of the communication process. Jakobson's strategy was to link the "goal-directed" objective of language to the entire system of verbal communication (Jakobson 1978, 351), to inscribe poetics within it. The result of his efforts is a two-part model composed of what Jakobson catalogued as "*factors*" and "*functions*". See *Image 121*: *Jakobson's model*.

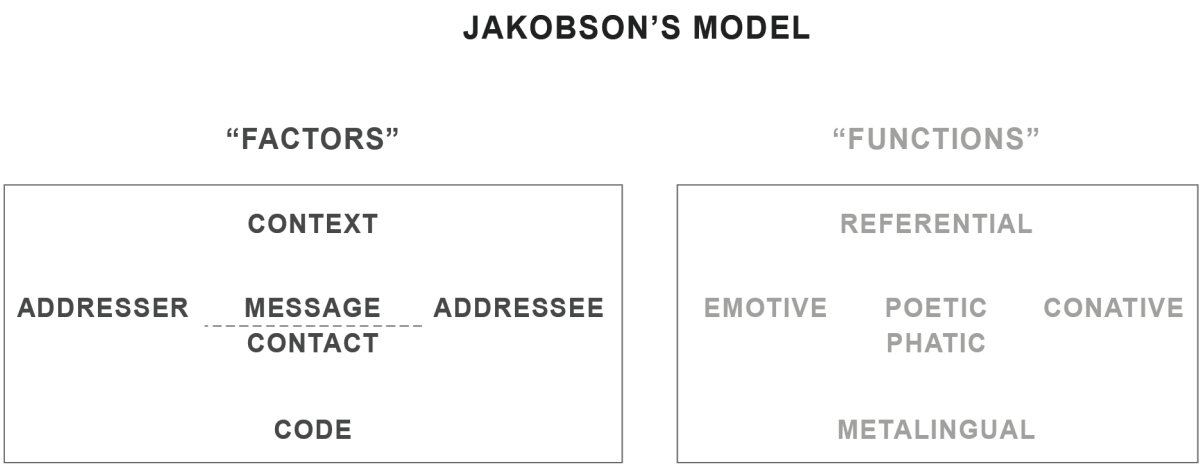


Image 121. *Jakobson's model.*

19.2.2. "*Factors*" within Jakobson's model

Jakobson builds the "*factors*" from the core components of any verbal conversation. First, "*The ADDRESSER sends a MESSAGE to the ADDRESSEE". And, all conversation is embedded in a "CONTEXT*", which must be "*seizable by the addressee, and be either verbal or capable of being verbalized*" (Jakobson 1978, 353). This "*context*" definition is significant because it demonstrates the double interpretative process people make in any conversation. The first interpretation is made by "*addressers*" about their context, which is represented in the ideas they verbally transmit to others, "*addressees" make the second* interpretation about the verbalised ideas they receive. We can see these are "*pansemiotic features*" of a system in which people rely on the perception of signs (Jakobson 1978, 351); a vision that Jakobson also linked to Peirce's work (Jakobson 1978, 374).

This process of verbalising an idea to allow someone else to listen to and interpret it leads Jakobson to the next component: "*a CODE fully, or at least partially, common to the addresser and addressee (or in other words, to the encoder and decoder of the message)*" (Jakobson 1978, 353). The "*code*" is a system of signs recognizable by addressers and addressees. Finally, he completes the model by adding the "*CONTACT*", describing it as "*a physical channel and psychological connection between the addresser and addressee, enabling both of them to enter and stay in communication*" (Jakobson 1978, 353).

How Jakobson displays these six "factors" enriches the descriptive model. The message is displayed in the centre with the contact immediately below and a dotted line between them to connect the addresser and the addressee. This illustrates that the message is the materialisation of an idea. The result is a semiotic product that allows contact between people; a product encoded by the addresser to be decoded later by the addressee. Underlying this semiotic product is the "*code*", a system of signs created by a community that the addresser will use to encode a message, and the addressee should know to decode the message. This reveals that any message must be articulated within a specific code to share information. The context is the total universe in which the conversation is embedded and is thus appropriately positioned at the top. See *Image 122*: *Analysis of Jakobson's "Factors"*.

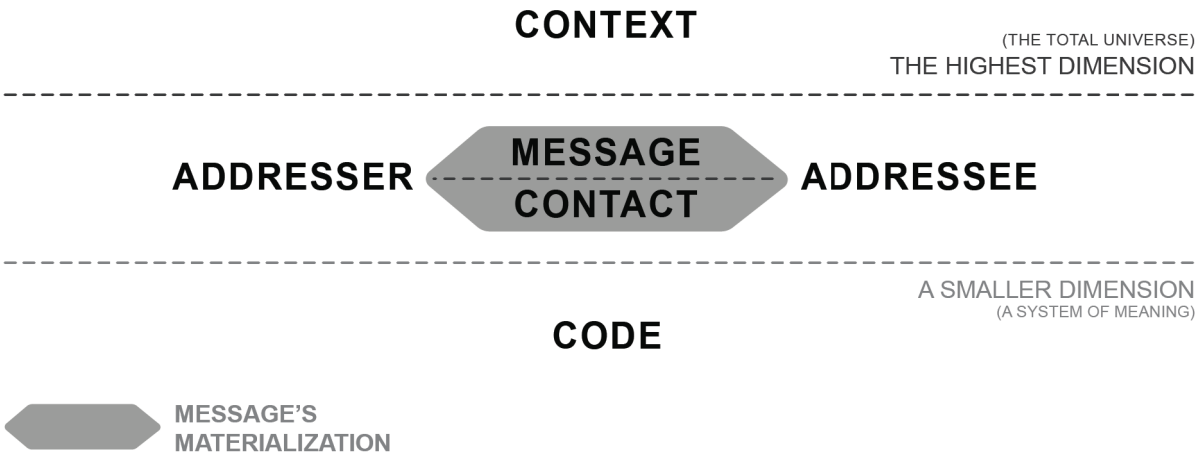


Image 122. *Analysis of Jakobson's "Factors".*

These six "factors" can be considered a self-contained model that remarkably synthesises, categorises, and displays any verbal communication process. The great utility of this model is that it can be easily adapted to any other semiotic process of encoding and decoding a semiotic product that transfers meaning simply by paying attention to how it makes contact with people. It is no wonder that Jakobson's model has become a fundamental tool in studying communication in diverse fields of knowledge (Andrews 1990; Huang and Nemoto 2022; Lemon 2018; Lotman 1977; Olteanu and Stables 2018; Queiroz and Aguiar 2015; Scalisi 2001).

Jakobson's communication model has been adapted and applied to various fields beyond linguistics, including management accounting (Huang and Nemoto 2022), packaging design (Lemon 2018), and interface design (Scalisi 2001). These adaptations aim to improve communication and reduce miscommunication in their respective domains. Jakobson's work has also influenced semiotics, with scholars exploring the relationship between his ideas and those of Peirce (Andrews 1990; Queiroz and Aguiar 2015). The concept of "*intersemiotic*" translation, introduced by Jakobson, has been further developed and applied to areas such as literature-to- dance translation (Queiroz and Aguiar 2015). Some researchers have proposed new models based on Jakobson's work, such as Jia's "*semiospheric division system*" (Jia 2019). Lotman highlights the dynamic nature of semiotic systems (Lotman 1977), and Olteanu and Stables' analysis of the connection between learning and adaptation from a semiotic perspective (Olteanu and Stables 2018).

All these studies demonstrate the ongoing relevance and development of Jakobson's ideas in semiotics. However, *Desirable Cities* argues that graphically analysing Jakobson's model, the display of the "*context*" at the top and the "*code*" at the bottom, does not make

evident that both the "*addresser*" (*sender*) and the "*addressee*" (*receiver*) must pass through the highest dimension of the context and a smaller dimension of the code in the process of encoding (*create*) and decoding (*understand*) the meaning of a "*message*". Thus, *Image 044* added information to Jakobson's model to reinforce the graphical comprehension of these two processes: (1) creating messages through the (senders') interpretation of the context and knowledge of the code, and (2) understanding messages through the (receivers') knowledge of the code and interpretations of the context. See *Image 123*: *Context and Code in the communication process.*

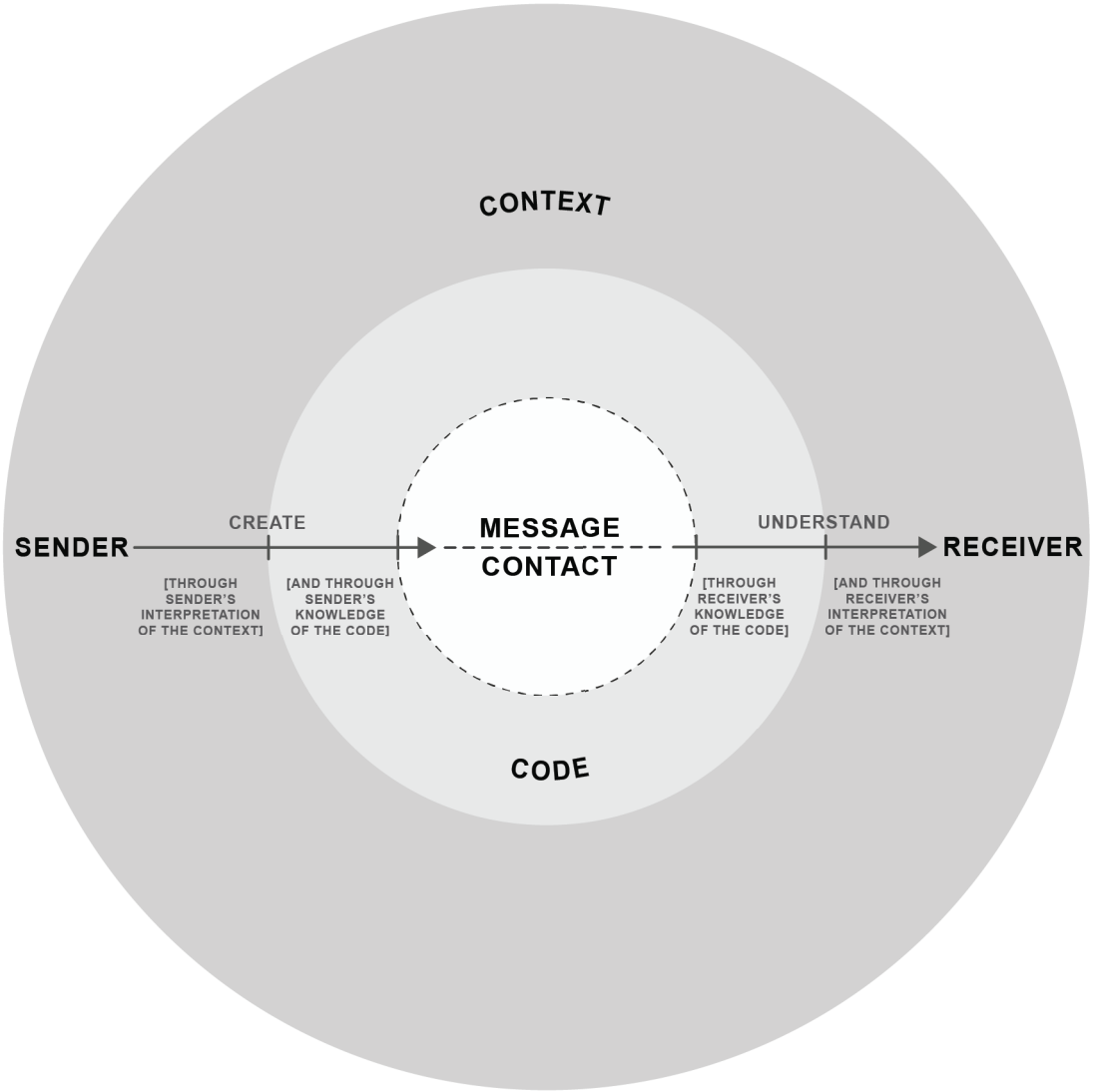


Image 123. *Context and Code within the communication process.*

19.2.3. "*Functions*" within Jakobson's model

The second part of Jakobson's model focuses on the "*functions*", and it is here where Jakobson demonstrates the emergence of poetics. This second part centres on the message's content, in other words, what the message is referring to. Jakobson demonstrates that the content of the message can highlight each of the six "*factors*" of

his model. Thus, the way he structures graphically each part of his model shows that the six focused points of the message's meaning ("*functions*") correlate with the six "*factors*". By displaying them this way, Jakobson aims to show that "*factors*" and "*functions*" are directly related to their location in the diagram.

Jakobson uses Karl Bühler's model of language as the source of the first three "*functions*": "*emotive, conative, and referential*", which respectively connect with: "*the first person of the addresser, the second person of the addressee, and the 'third person,' properly – someone or something spoken of*" (Jakobson 1978, 355). Connected in this manner, the model demonstrates that A) if the focal point of the message's content is the sender or creator, then the function is "*emotive*", linked to Anton Marty's work; B) if the focal point is the receiver, then the function is "*conative*", highlighting within it the "*vocative and imperative*" grammatical expressions; and C) if the objective of the message is to talk about the context, then the "*function*" is "*referential*", a connection extracted from Bühler's model.

Jakobson proceeds to explain how there are verbal exchanges comprising "*entire dialogues with the mere purport of prolonging communication*" that do not have a specific meaning, and defines this "*function*" as "*phatic*", a term he borrows from Bronislaw Malinowski (Jakobson 1978, 355), adding that this "*is also the first verbal function acquired by infants*" (Jakobson 1978, 356). Jakobson then remarks upon conversations in which people use language to talk about language, not only from an academic point of view, but also in daily conversations, which he explained as: "*Whenever the addresser and/or the addressee need to check up whether they use the same code*", naming it "*metalingual*" and giving the following example: "*'I don't follow you – what do you mean?' asks the addressee".* Jakobson further links this to children by highlighting that this function is particularly important in the *"acquisition of the mother tongue*" (Jakobson 1978, 356).

Finally, Jakobson addresses "*poetic*" as the function of language when the focal point is the composition of the "*message for its own sake*" (Jakobson 1978, 356). This function is not limited to poetry but is fundamental to all communication. Jakobson argues that the poetic function projects the principle of equivalence from the axis of selection (*metaphor*) to the axis of combination (*metonymy*). In simpler terms, the selection involves choosing words with similar meanings (a metaphoric process), while combination consists of arranging them in a sequence (a metonymic process). The poetic function, by emphasising rhythm, sound, and form, makes the message itself an object of attention, making it more palpable and foregrounding its structure (Waugh 1980). This is a process

of "*selection and combination*" (Jakobson 1978, 358) with an awareness of aesthetics, which Jakobson says is not unique to language: "*Any attempt to reduce the sphere of poetic function to poetry or to confine poetry to poetic function would be a delusive oversimplification*" (Jakobson 1978, 356). Thus, Jakobson stresses the influence and importance of poetics in providing an appealing quality to any communication, which can be extended to the appealing character of cities.

Jakobson further explains that none of the six "*functions*" monopolises the entire purpose of the message. Instead, the purpose of the message comprises multiple "*functions*", and its meaning is complemented by the "*different hierarchical order of functions*" within a message (Jakobson 1978, 353). As mentioned, Jakobson's model is structured to show that the "functions" directly correlate with the "Factors". However, because they are presented separately, following the order of his arguments in his "*Closing Statements*", the link between the two parts of the model is implied, but not explicitly evident. *Image 045* explicitly links the focused points of the message's meaning or *message's focus point* with each "*function*" together with its respective "*factor*" or *components of the communication process*. This modified image of Jakobson's model aims to show the relationship between the materialisation of the message's content and its "goal-directed" meaning. See *Image 124*: *Components of the communication process and its message's focus point*.

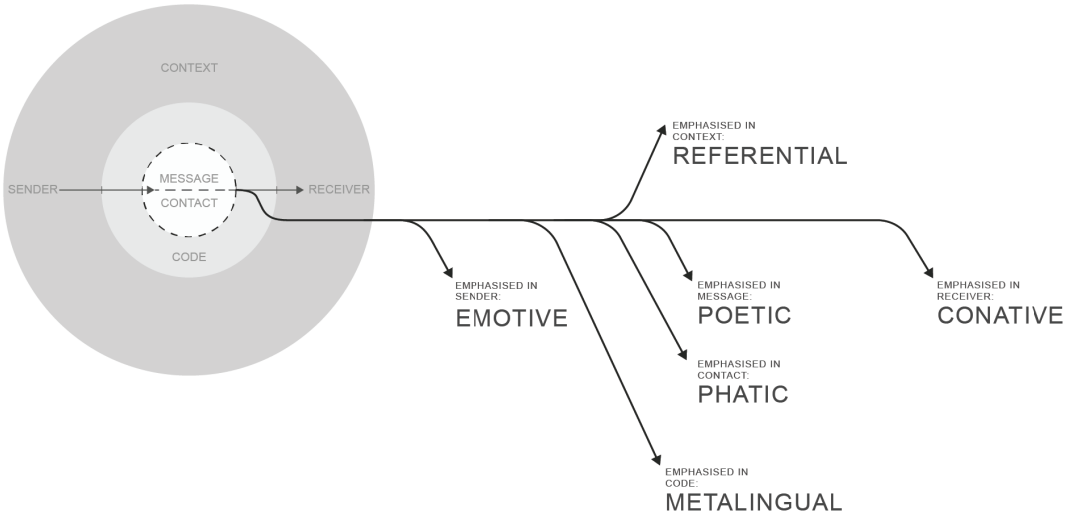


Image 124. *Components of the communication process and its message's focus point.*

19.2.4. Driving forces within Jakobson's model

This observation, that the message's focus point ("*functions*") can highlight components of the communication process ("*factors*"), invites people to contemplate the driving forces behind the communication process. Indeed, Jakobson touched upon

this linkage when he said "*a direct expression of the speaker's attitude toward what he is speaking about*" (Jakobson 1978, 354). His use of the words "*expression*" and "*attitude*" suggests forces behind the creator of the message, which result in the aim of the creator's message. To elaborate on these forces, it is essential to distinguish the human dimension of the communication process: the 'human factor'.

This focus on the human understanding of the environment connects the works of Peirce, Bühler, and Jakobson. *Image 046* displays both 1) Peirce's model, situated on the left side, and 2) Bühler's model, situated on the right side. The source of this adaptation of Peirce's model is from Chandler's Semiotics (Chandler 2017, 31), who related it to Peirce's statement: "*A Representamen is a subject of a triadic relation to a second, called its Object, for a third called its interpretant*", in which he added "*this triadic relation being such that the representamen determines its interpretant to stand in the same triadic relation to the same object for some interpretant*" (Peirce 1960a, 285). The sources of Bühler's model adaptations are from "*The Three Semantic Functions of Language"* (Bühler 2011, 34–35), which was later translated and adapted by Nöth in the "*Handbook of Semiotics*" to facilitate its comprehension (Nöth 1998, 186). See *Image 125*: *Peirce's and Bühler's models*.

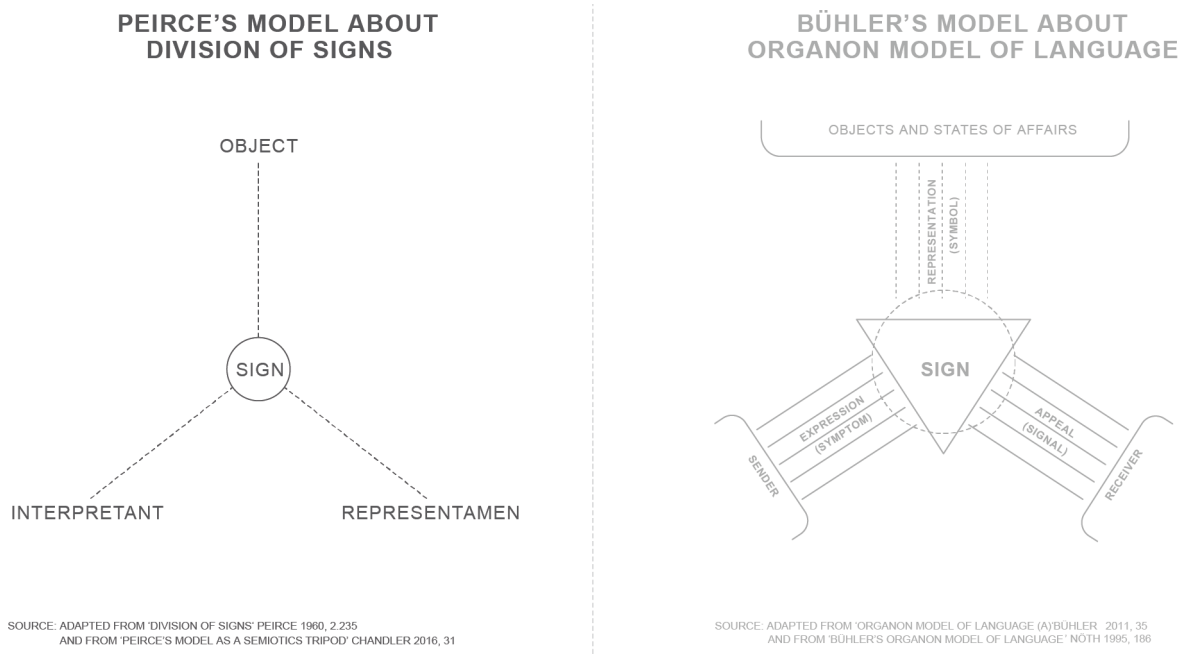


Image 125. *Peirce's and Bühler's models.*

When Bühler's model highlights the "*representation*" of the "*objects and states of affairs",* it is clear that "*objects and states of affairs*" is the "*context*" in the highest dimension: the environment (*natural*, *cultural*, *constructural*) or Peirce's "*Object*". The representation is human-centred because the "context" is subject to the individual's

perception, interpretation, and responses to the environment. In other words, from this individual's perceptions and interpretations of the "*context*" articulated as a thought, the senders or creators produce what both Jakobson and Bühler define as an "*expression*" that will result in a "*message*" because it has imprinted a meaning. In other words, senders or creators are compelled by a necessity or desire to express themselves and communicate.

From the aforementioned process in which Jakobson highlights the "*selection and combination*" (Jakobson 1978, 358) of "*a CODE fully, or at least partially, common to the addresser and addressee*" (Jakobson 1978, 353), the "*code*" emerges as a system that should be familiar to both senders and receivers. This helps to understand the human dimension more deeply, as it reveals the process undertaken by the senders or creators who must choose from their knowledge a "*code*" or communication system that the receivers can identify and understand. A code is not individually created but is the locus of a group of people (collective dimension), which aligns with Lacan's conceptualisation of the "*Other*". However, a "*code*" is constantly subjected to the individual's context and knowledge that senders and receivers have of the code's rules (individual dimension), linked to Lacan's ideas of the conscious and unconscious. Therefore, a "*code*" exists in the collective dimension through its collective use, and it is subjected to the individual dimension by an individual's knowledge of it. For example, the collective dimension of the code "first floor" within London's community refers to the floor above the "ground floor", which is at the street level. In contrast, "first floor" within Shanghai's community refers to the street level. Suppose a Londoner tries to communicate a message related to the floor at street level in Shanghai. In that case, the correct understanding of that message will depend on their knowledge of these variations of their collective codes. Furthermore, even within the same community and context, professional codes, such as "ionic" columns (referring to the style of a Greek classical column with vertical stripes that has a scroll-shaped ornament on the top of the shaft, called volutes), will not be familiar for many people outside of the field of architecture and related fields, showing the difference between collective codes and an individual's knowledge of them.

This collective use of codes through time allows receivers to identify similar patterns among individual expressions and stylistic choices of senders or creators in their messages. Jakobson demonstrates this association between poetics and styles, not only by choosing the title for his Closing Statements: "*Linguistics and Poetics*", but also by relating in his statement the "*synchronic poetics*", which could be addressed as

the stylistic expression in a given moment, and "*historical poetics"* which refers to the stylistic expression over time or "*diachrony*" (Jakobson 1978, 352). Considering that the poetic "*function*" is focused on the message, this can be expanded to the more general observation that the message is subjected to the style. On the other hand, the contact is subjected to the medium in which the message is materialised and transferred. As Shannon and Weaver demonstrated with the notion of "*noise*" (Fiske 2011, 6), the medium in which the message is materialised and transferred matters. For example, speaking face-to-face is different from using a device like a radio transmitter or telephone. Thus, a different medium will lead to a different communication experience.

Therefore, as the senders or creators are subjected to a necessity or desire to express meanings through their messages or compositions, the receivers are subjected to the curiosity to comprehend those messages or creations, something that Bühler referred to as the "*appeal*" of the "*sign*" within the receiver. This is part of the mental process of interpreting the environment as Ellard develops it in his psychogeography studies. Ellard explains that "*connections are written deeply into our nervous system's circuits",* which allow individuals "*to share experiences with one another and to respond adaptively to the risks and opportunities presented by the natural environment*" (Ellard 2015, 24). As Maturana explained, any message, composition, or action always becomes part of the environment after its materialisation, and the receivers will always decode the environment as part of their natural survival instincts (Maturana and Varela 1992, 157–76). In semiotics, the process of decoding the message requires the individual's knowledge of the code. Still, this process remains subject to curiosity in order to comprehend the meaning of the sender's or creator's composition.

There is no doubt that appeal is an important quality that facilitates the engagement between the receivers and the message. However, the problem of basing the receiver's process of decoding a message on the appeal of that message is that it rules out the impact of unappealing messages. Unappealing messages could become triggers for other actions. After an encounter with an unappealing message, the receivers can either focus on something else, creating a diversion, or become psychologically affected by the unappealing quality, creating a subconscious response. For instance, within a conversation, people can hear a word that is unappealing to them because of a previous traumatic experience, and that unappealing and undesirable word can still trigger an emotional response within themselves. See *Image 126*: *Driving forces within the communication process*.

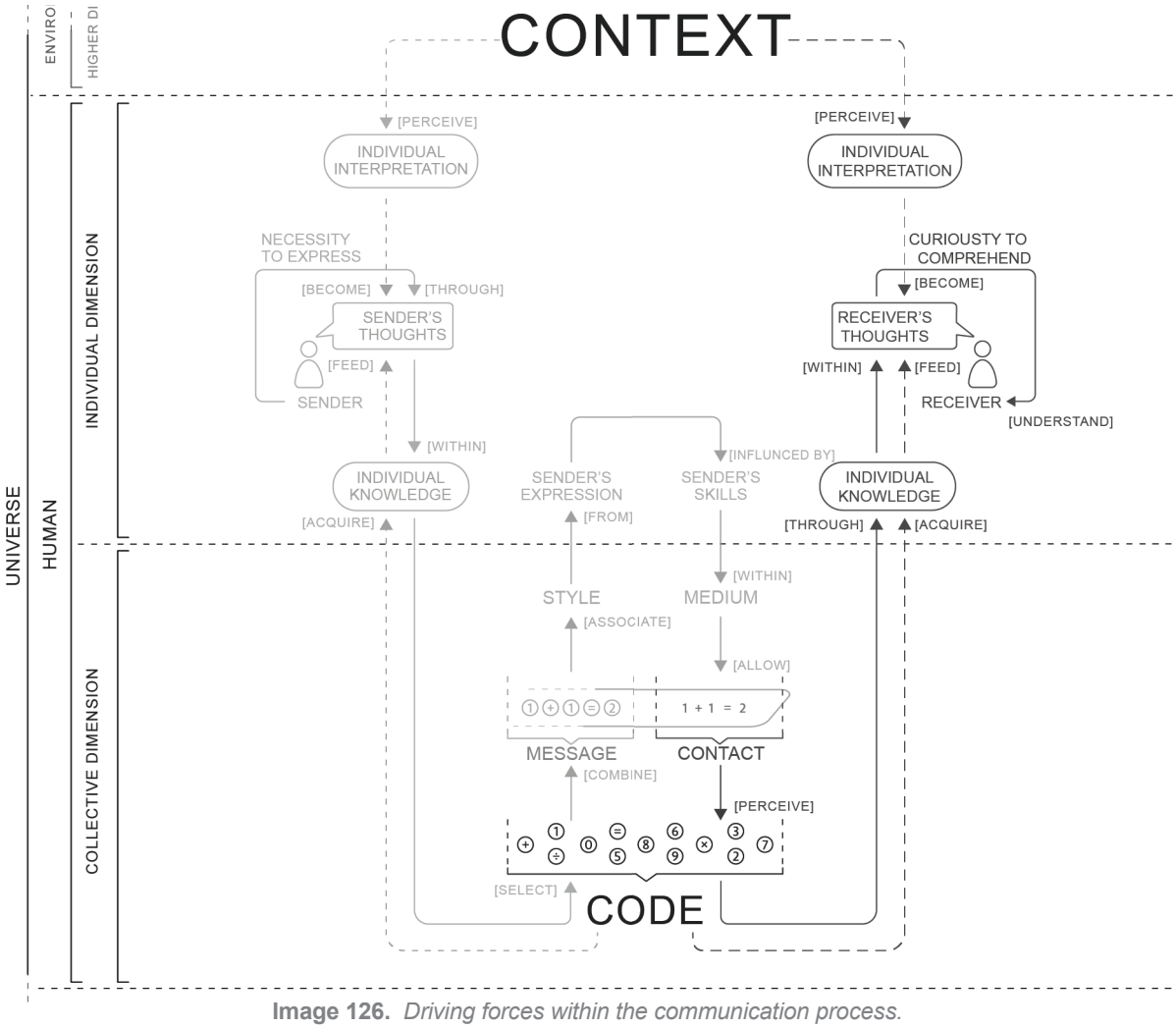


Image 126. *Driving forces within the communication process.*

This model shows how the "*context*" is constantly subjected to the individual's interpretations because of its complexity (includes *natural*, *cultural* and *constructural* components). The "*code*", as a minor system, is subjected to a set of rules; however, because people use it, it is also subjected to the individual's knowledge of its rules.

Therefore, these two systems are the primary source for senders or creators to encode, and receivers to decode. The senders or creators are driven by their necessity and desire to express, while the receivers are driven by their necessity and desire to comprehend. This process establishes communication between senders and receivers, where the message is constantly subjected to a style associated with the sender's chosen expression and to the identified character perceived by the receiver. The contact is subjected to the medium within which it is materialised and the execution skills with which it is materialised. The same can be said of urban experiences, Ellard demonstrated through an urban experimentation with the BMW Guggenheim Laboratory that when the participants were walking along an unappealing building with a "*long,*

blank façade", they "*stood awkwardly looking around for something of interest to latch onto*". He further noticed that "these people were bored and unhappy" (Ellard 2015, 108–9), demonstrating the power of unappealing experiences in triggering new actions. Therefore, senders or creators must consider the appealing factor of a message or composition to increase the possibility of successful contact with the receivers. Likewise, *city makers* must do the same within the composition of cities to improve the successful interaction between their creations and their *city users*. Thus, decoding urban *spaces* could also follow the same method as interpreting the "*context*" and "*code*". And each interpretation that *city users* make of their *context* and their spaces, at a given moment, will develop over time a bank of ideas that will become the source of thoughts for encoding and decoding future urban messages and environments.

19.2.5. Adapting Jakobson's model to city development and urban experience

Before adapting the model, it is crucial to ground this approach within the extensive literature on the semiotics and phenomenology of the built environment. The semiotic perspective posits that architecture functions as a "*primary modelling system*" (Preziosi 1979, 77) that structures people's reality like language. Within this system, architectural forms possess both denotative functions and connotative cultural meanings (Eco 1997). They are understood not as isolated items but as components within a broader "*system of objects*" governed by a social code (Baudrillard 2000, 8). Complementing this meaning analysis, the phenomenological tradition emphasises how this meaning is experienced. Grounded in the philosophical assertion that the "body" is the medium of connection with the environment (Merleau-Ponty 2012), buildings are viewed as something people "*encounter*" with their "*whole body*" (Hale 2016, 14). The negligence of this multi-sensory engagement is a primary cause of alienation in modern cities (Pallasmaa 2012, 29), as truly lived space is not external but is internalised through "*imagination*" (Bachelard 2009, xv–xxxix). This dual perspective is vital because it reframes the *city user* not as a passive *addressee* but as an active participant in what can be termed a "*semiotic landscape*" (Jaworski and Thurlow 2010, 2), a *natural*, *cultural* and *constructural* environment where meaning is actively *encoded* and *decoded* through embodied interaction.

Desirable Cities emphasises the importance of *city makers* to be able to comprehend and interpret *city users'* expectations for desirable urban experiences. This leads to the necessity of developing urban anthropological tools that allow identification of the city stakeholders' expectations and their communications. The adaptability of Jakobson's

model for understanding the process of meaningful compositions within aesthetic experiences facilitates the connection between all the *city makers* and *city users* involved in the urban experience through the spatial compositions, including the encoding and decoding processes within their urban context and the available codes.

Any city development has a macro, meso, and micro scale of development. The complexity of any city and its capacity for continuous development situates it at a macro level. The specific projects within the grid of a city, such as buildings, squares, and parks, belong more to the meso level. Complementary objects that can be used within the city's total grid or a specific project, such as lighting systems, advertising boards, furniture, and other objects of a smaller scale, but capable of repetition, are more part of the micro level. Because this micro level can be part of the scope of work at the macro and meso levels, the adaptation of this new model to the analysis of the development of cities will be addressed only at the macro and meso levels.

The creation of any space includes three main processes: 1) the selection of its components, 2) the composition that articulates the selected components, and finally 3) the materialisation of that previously envisioned composition. These processes have an evident impact on the environment, and their results also go from a macro to a micro level. The development starts from the *city makers'* knowledge that will favour a system to compose a space. In doing so, *city makers* aim to satisfy the other *city makers* and the *city users*. From that selected system of code of composition, the *city makers* select specific resources and tools to materialise the urban space. These processes of acquiring knowledge and making compositions are influenced by the *Cities' PID*s that *city makers* had imprinted in their memories. However, these urban spaces are not only shaped by the knowledge and expressions of the *city makers*, but also by their professional skills.

Then, the collective dimension of society could associate these urban spaces with a defined style that results from the *city makers*' compositions over time. *City users* decode these urban spaces through their individual perceptions, interpretations, and aspirations; in other words, using their *Cities' PID*s. *City users* accumulate physical and virtual memories of their city spaces marked by their responses to them (*emotions*, *actions*, and *reflections*). These collected experiences become the primary references for their tactical behaviour, and the canvas for their people's expectations for desirable urban experiences. See *Image 127*: *City development as a communication model*.

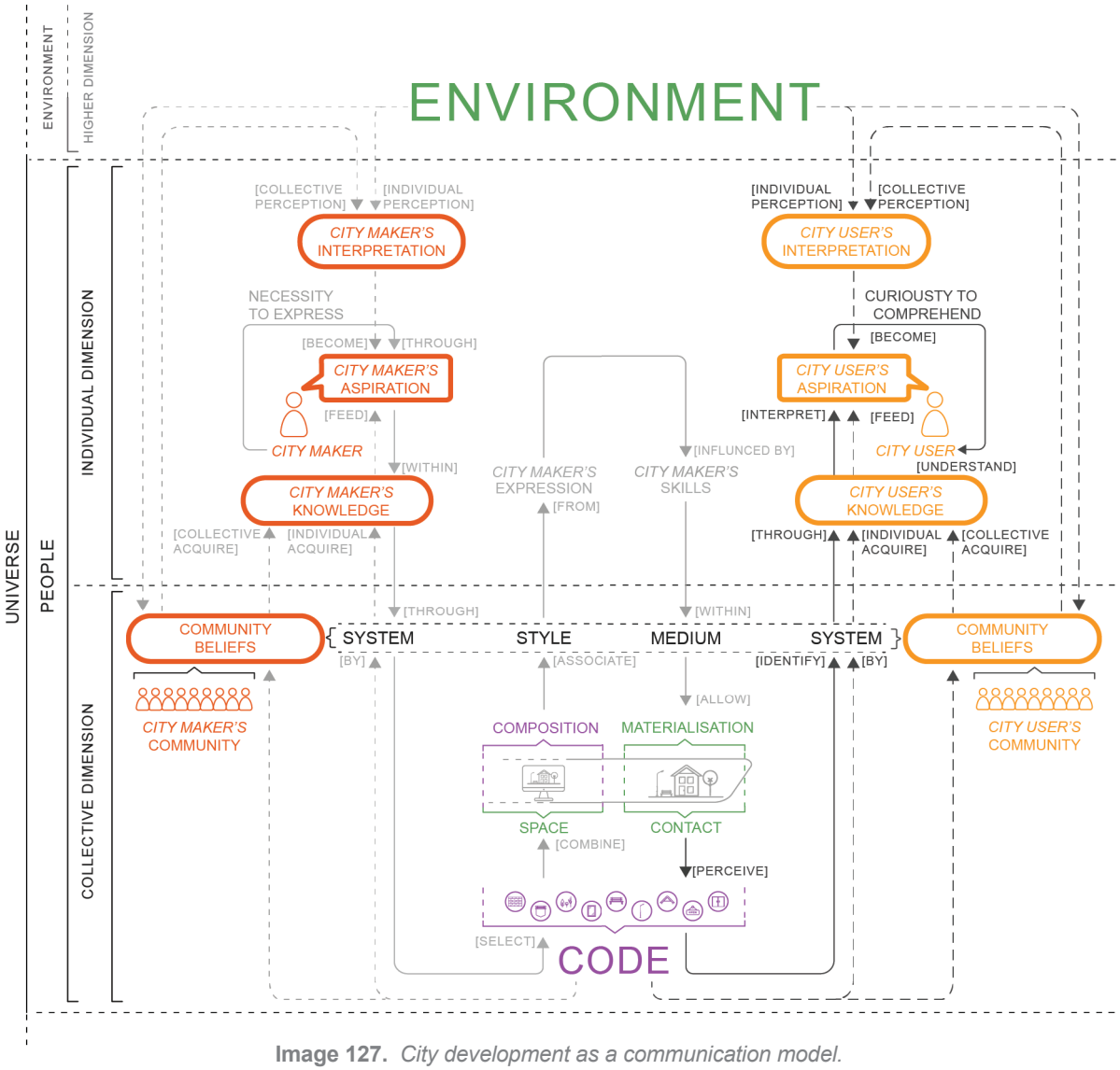


Image 127. *City development as a communication model.*

Looking at city development, all the three processes (selection, composition, and materialisation) that will have an impact within the three environments (*natural*, *cultural*, and *constructural*) from its three scale levels (macro, meso and micro), are all highly dependent on the individual perception, interpretations and aspirations of the *city makers*. Individual actions that transcend to the highest dimensions of the environment as a whole. Therefore, *city makers* have a profound responsibility that requires all the help that can be provided from various fields of knowledge. Magnaghi's theory certainly provides sufficient guidelines to achieve the necessary environmental equilibrium, which can be incorporated within the banks of choosable systems, along with their related codes and materials, to satisfy the required ecosystem balance. This adaptation of Jakobson's and Bühler's models can also contribute to successfully communicating the city stakeholders' expectations for desirable urban experiences through their *Cities' PIDs*, as *Cities' PIDs* emerge as the "*code*" that *city makers* use to *encode* and the *city*

users use to *decode* the city spaces. See *Image 128*: *Cities' PIDs as communication code*.

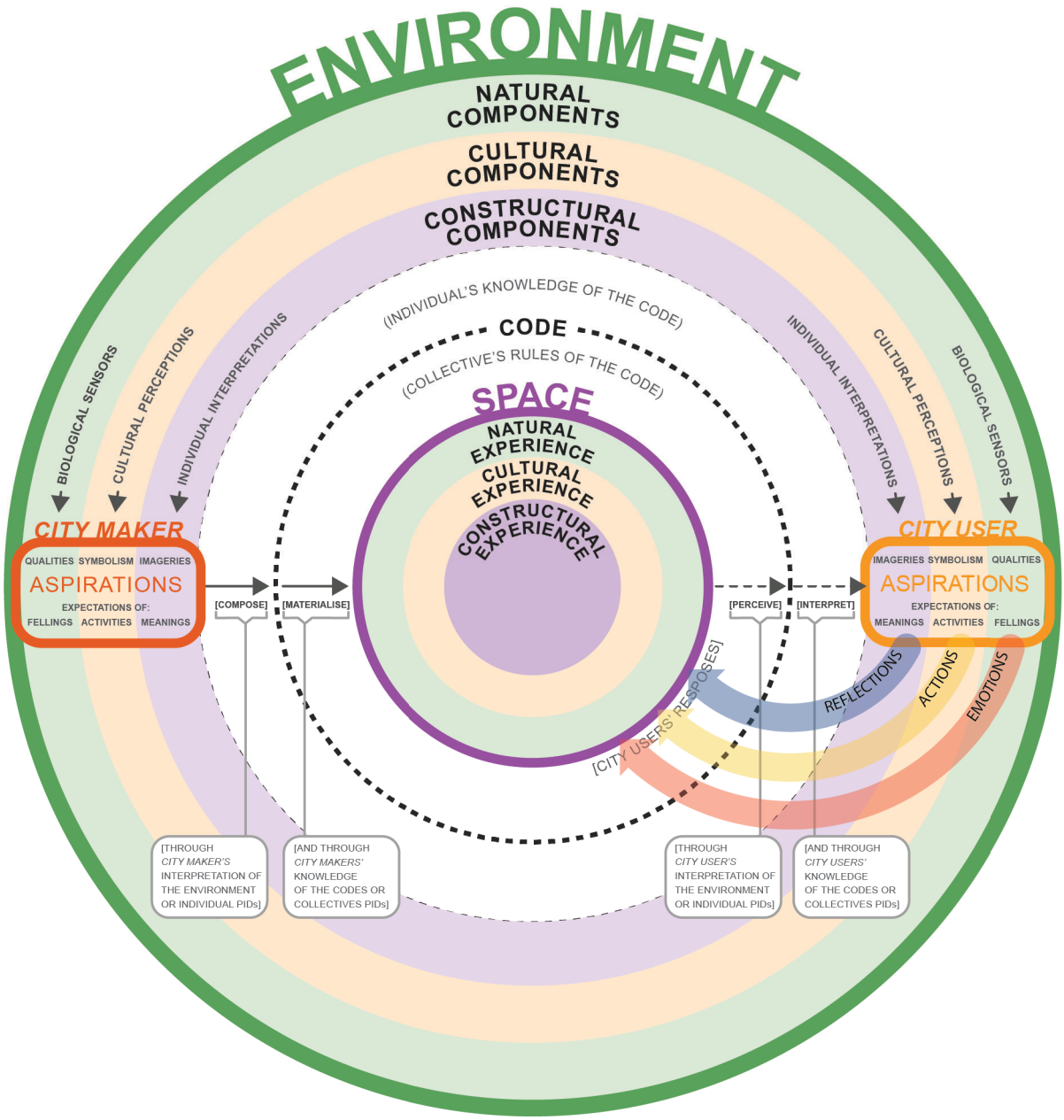


Image 128. *Cities' PIDs as communication code.*

Finally, by adapting Jakobson's concept of "*function*" to this urban communication model, *Desirable Cities* provides a synthesised catalogue of the focal points of urban space development. If the focus is the *city maker*'s recognisable style, the function is *branding*, as it promotes the *city maker*'s brand. If, instead, the focus is on the *city users*, its function is to promote an *intuitive* way of using the space. If the focus is the character of the chosen material system (structural, constructive, symbolic, etc.), its function is *architectonic*. If the focus is on the composition of the space, its function is *stimulating*.

If the focus is on how space and users come into contact, its function is *interactive*. If the focus is on the environment, the primary function is sustainable, which can be subdivided into specific functions: *urbanistic*, *distinctive*, and *ecological*, according to the specific components of the environment that the space addresses: the *constructural*, *cultural*, or *natural* environment, respectively. See *Image 129*: *Focuses of cities' spaces materialisation*.

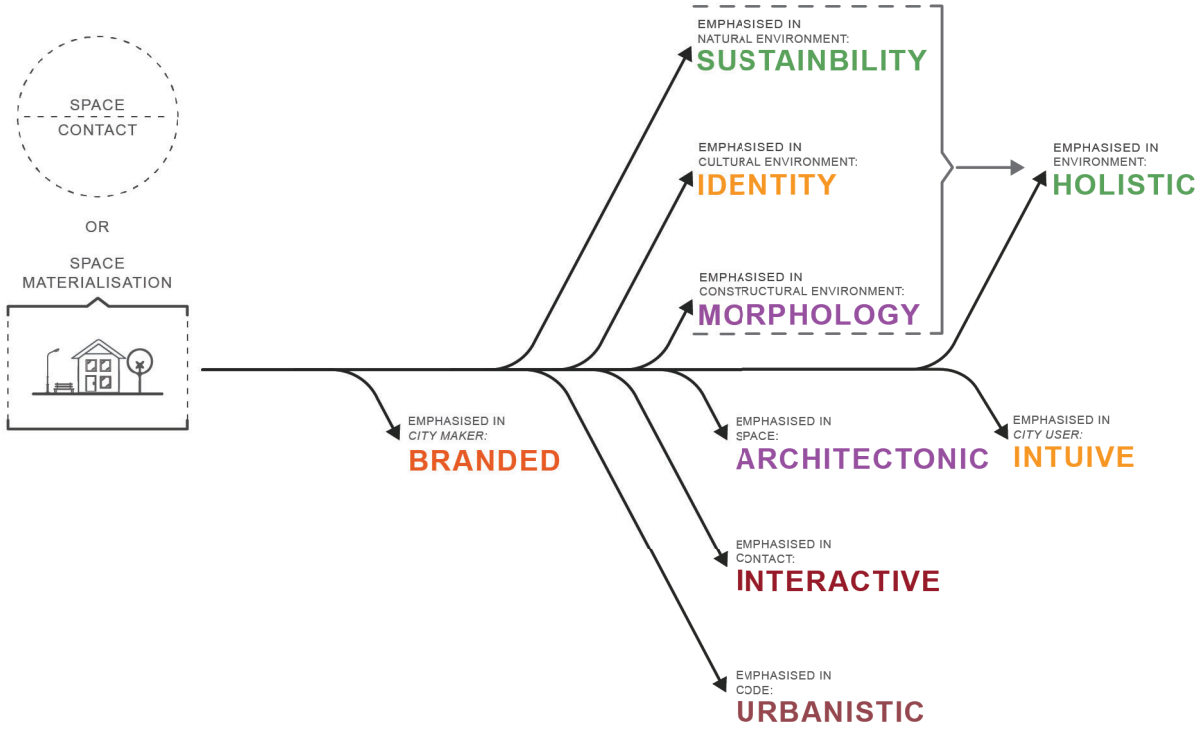


Image 129. *Focuses of cities' spaces materialisation.*

Ultimately, these adaptations help to understand the hierarchies and interactions of meanings between people and their environment, as well as the communication of these meanings among city stakeholders, with a specific emphasis on their expectations for desirable urban experiences. Therefore, these graphic tools facilitate the selection and composition of systems and materials that are preferable to *city users*, which can help create cities that are more aesthetically *desirable* to them. *Image 051* shows the potential areas of development in the pursuit of *desirable* cities: 1) integrating tools into the curricula of specialised programs and schools to improve *city makers*' proficiency; 2) incorporating methods from data analysis and anthropological studies to collect *city users*' expectations; and 3) developing aesthetics campaigns and tools that could bridge the gap between *city makers* and *city users*. See *Image 130*: *Desirable Cities' potential developments*.

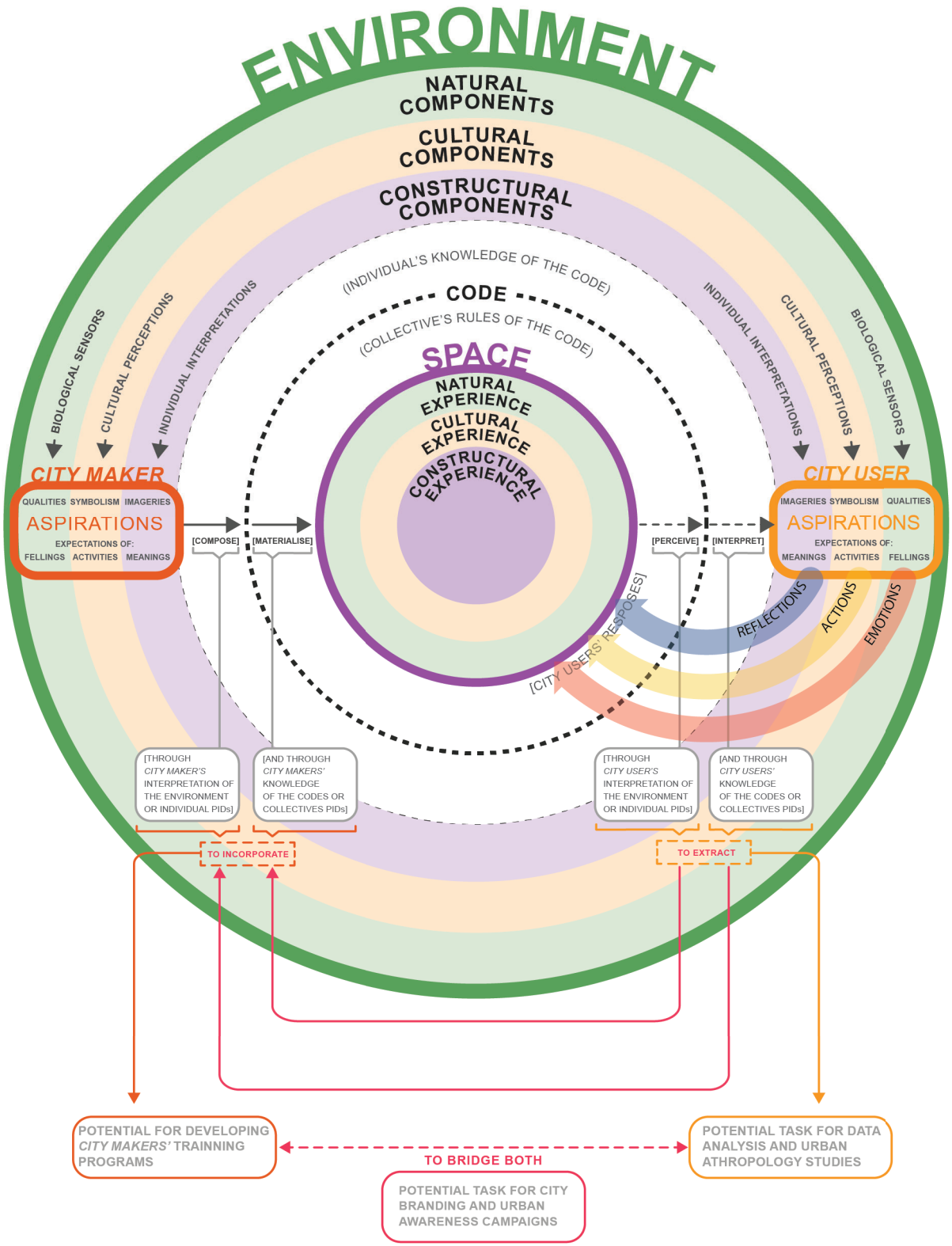


Image 130. *Desirable Cities' potential developments.*

19.2.6. Urban communication models:
Conclusion for *Desirable Cities*' model of urban communication

Graphic models can facilitate the understanding of complex systems. Semiotic models can help to identify, synthesise, display, and therefore profoundly comprehend

the hierarchies and interactions that occur among the components of a system in which there is a transference of meaning. In the development of cities, one can always find both complex systems and the transference of meanings. City environments have a profound impact on people's behaviour. The key to understanding people's behaviour is therefore connected to their perception, interpretation and responses to the environment. If *city makers* consciously design cities to promote the harmonious coexistence of people, they must consider the *city users'* expectations of *desirable* urban experiences. This urban communication model aims to identify, synthesise, display, and understand the hierarchies and interactions at play within city development, focusing on the *desirable* elements that can be identified within the city stakeholders' urban experiences. At this point, it is essential to mention that the focus on *Desirable Cities* does not detract from other fundamental objectives of a city, such as its sustainability. As Jakobson explained, functions do not monopolise the system but complement each other. The aim of *Desirable Cities* is for cities to be developed *holistically*. The following section develops a complementary semiotic model for eliciting and comparing *Cities' PIDs* across stakeholders, clarifying how meanings are produced and negotiated in practice.

19.3. Urban semiotics model: Understanding interactions and meanings between cities' stakeholders

City stakeholders might interpret the same urban space differently, depending on their singular experiences and the city's imageries. Consistently extracting these imageries is fundamental for efficient communication among city stakeholders. Dewey's reflections on experience connect how people derive meaning through lived interaction with their environment; Preziosi's reflections on architecture as language set the stage for treating the *constructural* environment as a kind of text. Eco's semiotic approach to architecture provides concrete insight into how city stakeholders "*read*" the city through signs, which are essentially imageries.

19.3.1. Cities' experiences: Analysis of Dewey's experiential pragmatism

John Dewey's philosophy of experience offers a powerful perspective on how people perceive and engage with urban environments. Dewey challenged the conventional separation of aesthetics from daily life, arguing that aesthetic and emotional responses are not confined to art objects but emerge from deep, active engagement with everyday surroundings (Dewey 2005, 274). For Dewey, "*having an experience*" transcends mere

routine; it signifies a profound, continuous engagement, a "*unity of feeling, doing, and thinking where participants can become conscious of how their surroundings shape them and how they, in turn, shape their surroundings*" (Dewey 2005, 35). This active and continuous nature of experience is central to his thought (Dewey 1995, 10). He articulated that experience is "*double-barreled*", recognising "*no division between act and material, subject and object, but contains them both in an unanalyzed totality*" (Dewey 1995, 10). Furthermore, experiences that lead to genuine "*growth*" must satisfy the criteria of continuity (how past experiences inform present ones and shape future ones) and interaction (the dynamic interplay between an individual and their environment) (Dewey 2015, 24, 38–39). This involves discerning the relationships between actions and their consequences (Wojcikiewicz 2010, 67).

Dewey's concept of "*experience*" directly operationalises Peirce's emphasis on the "*practical bearings*" and "*expected experiences*" that define the meaning of a concept (Peirce 1960d, 388–410). For urban concepts, such as vibrant public space, their meaning is not abstract but concretely realised and clarified through the experiences they generate for people. Therefore, a desirable urban experience is the consummatory experience that fulfils the practical implications of people's expectations (Dewey 2005, 35). This perspective means that the environmental perception (through cultural symbolism), their consequential interpretations (individual imageries) and the consequential psychological responses (in the form of emotions, actions and reflections), are the very effects and consequences through which the meaning of a city is pragmatically understood and verified. In this regard, Dewey's emphasis on active, situated engagement (Dewey 2015, 17, 39), and Peirce's call to explore and experiment with conditional hypotheses to understand practical outcomes (Peirce 1960d, 388–410), converge with the *Desirable Cities* approach to apply didactical visual tools.

While his insights align well with urban studies, his original work did not explicitly focus on cities. More significantly, his philosophy has been critiqued for being human-centred and not fully accounting for ecologically-centred cultures (Bowers 2003). Additionally, his theory encountered difficulties fully bridging the dualism between the individual and society, often lacking explicit mechanisms for "*cultural mediation*" (Park and Schied 2007). However, Peirce's *Pragmaticism* approach, emphasising the "*community of inquirers*" and the pursuit of truth through collective, scientific investigation (Peirce 2008, xli; Shields 2003), can extend Dewey's ideas to encompass broader ecological and social well-being.

Dewey connects "*experience*" to "*growth*," which he considered the sole moral aim (Dewey 2015, 20). If this "*growth*" is to be truly educative and universally beneficial, it cannot remain solely anthropocentric. Peirce's concept of the "*community of inquirers*" provides the necessary social and ethical framework to expand the definition of "*growth*" beyond individual human experience to include the more-than- human world. The settled state of opinion or truth reached by this community, by *Pragmaticism's* definition, must yield positive practical bearings for all elements of the shared world, including ecological systems (Peirce 1960d, 388–410). The interdisciplinary framework of *Desirable Cities* thus leverages Peirce's dimension of inquiry to overcome Dewey's limitations, ensuring that urban development is understood in terms of a *holistic* approach through scientific investigations. Therefore, *Desirable Cities* treats '*having an experience'* as the empirical substrate from which *Cities' PIDs* can be elicited, compared and, ultimately, negotiated

19.3.2. Cities' language: Analysis of Preziosi's reflection on architecture

Donald Preziosi advances a rigorous semiotic theory of the built environment, arguing that architecture is not a collection of mute objects but a culturally specific architectonic code. This system, like verbal language, operates through structured elements and organisational rules to produce meaning. Read alongside Umberto Eco's "*Function and Sign*", which casts architecture as a field where primary (*utilitarian*) and secondary (*communicative*) functions are braided through codes, denotation, and connotation (Eco 1997, 174–79), architecture emerges as a form of discourse. This position echoes Roland Barthes's call for an "*urban semiology*" that treats the city as a text structured by signifying systems and interpreted by its inhabitants (Barthes 2006, 87–90). Within urban studies, such communicative frameworks have become foundational, motivating the analysis of columns, facades, and spatial layouts not merely as functional forms but as syntactic units that convey complex social meanings (Eco 1997, 180–82; Gottdiener and Lagopoulos 1986, 1–4). A central principle of Preziosi's theory is that built environments are inherently multifunctional. To explain how a single structure carries simultaneous operational, social, and symbolic loads, he adapts Roman Jakobson's model of linguistic functions to architecture. An architectonic formation can be "*expressive*" (orientated toward the "*addresser*" or, in *Desirable Cities'* terms, *city maker*), revealing personal style or identity; it can be directive or "*conative*" (orientated toward the "*addressee*" or, in *Desirable Cities'* terms, *city user*), channelling movement and behaviour. It can be territorial

or "*phatic*", establishing social contact and group identity. Eco offers a complementary analysis, showing how an artefact can shift between primary and secondary functional dominance as "*codes*" and "*contexts*" vary; his examples of exposition pavilions and the Gothic ogive demonstrate how meanings arise from conventions layered upon use (Eco 1997, 178–84). This coheres with Henri Lefebvre's proposition that social space is a social product, continuously generated through spatial practices, representations of space, and representational spaces (Lefebvre 2013, 32–33, 44–49). Thus, architectural meaning is not intrinsic to form but is culturally produced and negotiated through use, narrative, and institutional practice (Eco 1997, 180–84; Preziosi 1979, 50–55).

To explain the source of architectural "*syntax*", Preziosi establishes a hierarchy of signs based on the linguistic principle of "*duality of patterning*". He distinguishes between "*sense-discriminative units*" (features, forms, templates), which function like "*phonemes*" to differentiate larger units without carrying direct meaning, and "*sense- determinative units*" (figures, cells), which function like "*morphemes*" to convey specific information. For example, a single brick (*Phonemes*) doesn't mean "house"; these individual components, which Preziosi called *sense-discriminative*. When these *phoneme* units, like bricks, are arranged in a specific, rule-governed way, e.g. assembling four walls, in which a wooden door and glass windows are inserted, the result is something with a direct and specific meaning: a "*room*" (*morphemes*), which Preziosi called a *sense-determinative*, matrices like diagrammatic patterns of cellular aggregation that operate like phrases or sentences. Eco similarly distinguishes syntactic and semantic levels in architectural codes, showing how rules of composition organise possible readings (Eco 1997, 180–84). At the urban scale, this provides a structural basis for the perceptual phenomena identified by Kevin Lynch, whose elements of paths, edges, districts, nodes, and landmarks compose a readable city- image that orients users (Lynch 1960, 2, 9, 46–49). Therefore, an architectonic "*language*" is not a mere metaphor but a structured system of constraints and affordances through which urban space is rendered meaningful (Eco 1997, 182–84; Preziosi 1979, 58–61).

Crucially, the meanings produced by this system are not fixed. Preziosi argues that architectonic evolution is not linear but cumulative, with styles emerging, lapsing, and being recoded as technical innovations and cultural exchanges alter the semantic landscape. Over time, formations become increasingly polysemous as systemic, *sense-discriminative* features acquire direct, *sense-determinative* associations through use, for example, a door, even if it is not inserted in any wall. Eco's casework confirms this

dynamism, showing how secondary (*symbolic*) functions can be reinterpreted across epochs, with the same form acquiring new readings in altered circumstances (Eco 1997, 179–86). Lefebvre's triadic model explains this as the historical interplay among spatial practice, representations of space, and representational spaces, which makes all form-meaning relations contingent (Lefebvre 2013, 44–49). Consequently, an edifice erected as a symbol of national progress may later become a site of dissent; the urban text is continuously rewritten by its users and institutions (Eco 1997, 179–86; Preziosi 1979, 50, 75). For *Desirable Cities*, this means that no *desirable* feature is forever desirable, nor is it for everyone.

Within the study and development of cities, this semiotic lens suggests that urban landscapes are composed as coherent yet open-ended narratives. Gottdiener and Lagopoulos situate this task within urban semiotics, where designers purposefully engage with codes while anticipating diverse interpretations (Gottdiener and Lagopoulos 1986, 1–6). This approach is enriched by Michel de Certeau's account of walking as an everyday "*writing*" of the city, where (*city*) *users* re-signify planned orders (by *city makers*) through tactics of movement and memory (de Certeau 2013, 91–110). Lynch highlights that enhancing imageability is not cosmetic but epistemic; it enables civic comprehension and attachment (Lynch 1960, 9, 46–49). Ultimately, Preziosi's *architectonic syntax* and Eco's insistence on *communicative function* compel city developments encoding (composing) and decoding (reading) codes' meanings (spaces) for communities' expectations (*desires*), rather than waiting for *city users* to achieve cultural and ecological resonance over mere spectacle (Eco 1997, 186; Preziosi 1979, 1–10, 53–55).

19.3.3. Cities' semiotics: Analysis of Eco's reflections on architecture

Umberto Eco's central move is to treat architecture as a sign system in which use and meaning are inseparable: a form "*functions*" and simultaneously "*signifies*", so that roofs, portals, and plans operate as codes as much as utilities (Eco 1997, 174– 76; 1976, 20–23). This semiotic coupling lets built forms stand for themselves and a "*type*", even when not in use (Eco 1997, 176–77). In urban settings, settlements communicate social order through recurrent morphologies like colonnades, domes, and grids, read against culturally learned codes (Eco 1997, 178–79). This point fit together with Lynch's empirical claim that urban "*legibility*" depends on how physical elements can be read and organised in memory, not just their physical performance (Lynch 1960, 2–8). These

arguments establish cities as discursive artefacts, as ensembles where pragmatic service and cultural signification are co-produced, not sequenced (Eco 1986, 50–55).

Eco distinguishes raw stimuli from true signs: a flash or falling object triggers reflex without conceptual mediation, while a facade or colonnade is interpreted through codes, enabling inferences about use, status, or value (Eco 1997, 178–81; 1976, 21– 22). This distinction raises a "*semiotic threshold*": only forms organised by convention are readable as signs (Eco 1997, 180–81). In practice, pedestrians "*read*" fronts, entries, rhythms of bays, and thresholds to situate themselves in the city, similar to Lynch's observation that "*paths, edges, districts, nodes, and landmarks*" support cognitive maps precisely because they are coded and hence legible (Lynch 1960, 14– 16). At the connotative level, meanings proliferate as culturally sedimented associations, which is Barthes' sense in which a sign's "*myth*" naturalises ideology through second order signification (Barthes 2006, 109–18). Thus, urban form is never a neutral stimulus: it is a conventional, learned text that requires an interpretive act to become operative in social life (Eco 1986, 50–55).

Eco's semantic–pragmatic distinction clarifies how buildings communicate. At the denotative level, we identify forms (for example: "that is a colonnade"); at the connotative level, we ascribe cultural and historical associations ("a temple of power"); at a mythic/ rhetorical level, choices embody deep ideologies (corporate might, civic virtue) (Eco 1997, 180–86). Barthes calls this second order signification "*myth*", a naturalising discourse through which power travels as common sense (Barthes 2006, 113–19). In the urban sphere, these connotations are stabilised across time by recurring types and images that support collective memory and orientation. Lynch demonstrated that legibility of orientation by memory requires precise socially shared codes (Lynch 1960, 8–13). Thus, architectural communication is neither transparent nor simple: it mobilises conventions whose ideological force warrants critical decoding (Eco 1986, 55–59).

Eco further frames architectural codes along "*lexicon*" (vocabulary of architectural elements), "*syntax*" (rules of combination), and "*pragmatics*" (use/context) (Eco 1997, 176–83). Urban design can be analysed as patterned combinations of elements (volumes, openings, interstices) whose spacing, symmetry, and rhythm form a grammar of city reading (Eco 1997, 182–84). This aligns with empirical urban image studies where the *images* of the city underwrite way-finding and place identity (Lynch 1960, 46–48). It also anticipates configurational approaches (e.g., path structures and frontage sequences) that examine how spatial arrangements condition social co-presence and

movement, which is another way of saying that *syntax* is socially consequential (Eco 1976, 27–33). Together, these perspectives justify a method that treats facades, portals, and public spaces conditions as components in a code to be parsed for both formal relations and culturally specific use conventions (Eco 1986, 55–59).

Methodologically, Eco proposes complementary analyses: "*syntactic*" (relations of proximity, symmetry, rhythm), "*semantic*" (what forms signify), "*pragmatic*" (how users interpret and re-use signs), and "*componential*" (breakdown of elements across contexts) (Eco 1997, 182–86). This is consonant with a broader semiotic program in which codes and sign-production govern cultural communication (Eco 1976, 20–23). Importantly, Eco's analysis keeps the reader/user central: meaning emerges in situated interpretation rather than in authorial order (Eco 1986, 50–59). In cities, this invites comparative decoding across layers, as the same portal signals civic gravitas here but junk there, as well as diachronic tracking of how materials and types acquire new connotations over time. The result is a replicable urban semiotics attentive to patterns, values, and interpretive communities that stabilise or contest what the city "*says*".

Eco's "*open/closed*" analysis sharpens the urban argument. Closed texts minimise interpretive latitude; open texts require active participation, inviting multiple legitimate readings "*within a field of relations*" (Eco 1989, 3–5, 14–16, 21–23). Public squares, promenades, and multi-use open-air public spaces operate as open texts when their syntax affords diverse practices and re-readings. De Certeau's "*Walking in the City*" similarly shows users' tactics (routes, shortcuts, appropriations) as co-producing urban meaning (de Certeau 2013, 91–110). In *Pragmaticism*, this co- production is a communal process converging toward "*settled opinion*" through iterative interpretation in use (Peirce 1960d, 388–93). In *Desirable Cities*, this suggests procedural protocols like talks and walks with didactic visual tools, that stage urban space as an open text, surfacing imageries of desire and negotiating them in a "*community of inquiry*".

Pragmaticism and Eco's proposal of unlimited semiosis, in which signs generate further *interpretants* in an open chain, explains why urban desires are dynamic and layered (Eco 1986, 50–55, 108). Thus, *Cities' PIDs* are not fixed referents but evolving constellations continually re-inscribed by experience and discourse, as any other sign emerged in the cultural domain (Eco 1976, 20–23). Empirically, situated, iterative interpretation like talks and walks interviews can capture the processual formation of these imageries rather than static snapshots, aligning with pragmatic conceptions of inquiry and communal meaning-making as Peirce proposes (Peirce 1960d, 388–410).

Such a process orientation reframes desirability as ongoing semiosis, in which *emotions*, *actions*, and *reflections* loop back into codes, altering connotations and expectations in place. Methodologically, *Desirable Cities* thus operationalises Eco by tracking how interpretations shift across contexts and over time, making the "*reading*" of the city an explicit object of research and development.

While Eco's semiotics shines at cultural decoding, it does not evaluate ecological or social performance by itself. Urban desirability demands complementary frameworks of the interrelationship of the *natural*, *cultural*, and *constructural* environments, including equity and economy (Campbell 1996, 296–300), with landscape-ecology metrics of resilience (Ahern 2013, 1203–10), and policy toolkits, like sustainable urbanism that operationalise targets and indicators (Beatley 2000, 1–20; Farr 2008, 3–12). The synthesis pairs semiotic critique (what the city means and legitimates) with assessment (what the city does), integrating a *holistic* interpretive method with indicator-based diagnostics. This hybrid agenda keeps cultural intelligence in dialogue with environmental and sociological science, enabling cities to be *desirable*.

19.3.4. Urban semiotic model: Conclusions for *Desirable Cities*' model of urban semiotics

The analyses of cities' experiences, language, and semiotics converge to reveal that the city is not a mere collection of physical structures, but a dynamic, meaningful landscape, and an urban text that is continuously written, read, and reinterpreted. The analysis of Dewey's, Preziosi's, and Eco's urban adaptations of semiotics provides a crucial lens for *Desirable Cities*, demonstrating that the *desirability* of urban space is fundamentally a product of cultural meaning. This meaning is not inherent in the material forms themselves, but is co-produced through the lived experiences of all the city stakeholders involved as they interact with the diverse and complex codes involved. By treating the city as a system of signs, this approach moves beyond purely functional or aesthetic assessments to uncover the deeper *symbolic* and *imaginary* processes that shape people's *perceptions*, *interpretations*, and ultimately, their *aspirations* for the urban environment. This integrated perspective suggests three foundational principles for understanding urban desirability through a semiotic framework:

Experience as the source of meaning. Drawing from Dewey's pragmatism, this model posits that urban spaces' meaning is realised through the consummatory experiences they afford from what they offer. The city's "*language*" is understood through abstract analysis

and embodied interaction inside the city stakeholders' perceptions, interpretations, and aspirations. Consequently, urban desirability is less about providing static amenities and more about cultivating dynamic, meaningful experiences that foster a sense of growth and belonging, including ecological sustainability and social well-being.

Cities as an open text. Eco's distinction between "open" and "closed" texts provides a powerful metaphor for urban design. A desirable city functions as an open text whose syntactic and semantic structures invite active participation and a plurality of interpretations from its stakeholders: *city makers* and *city users*. This reframes urban communication as two-way interactions, from which *city users* cannot be addressed as passive space consumers. As active co-authors of urban meaning, *city users* must be equipped with tools and knowledge to communicate their perceptions, interpretations, and aspirations, as many *city makers* are trained. *Desirability*, therefore, is not a fixed state but an ongoing process of semiosis where all the city stakeholders must participate in the communication of their aspirations.

Architectonic codes as a medium of communication. Preziosi's framework establishes that the *built* environment operates via a structured, language-like code. This implies that urban development is an act of communication, where *city makers* encode values, ideologies, and functional cues into the urban fabric, which *city users* decode to carry on with their lives. A *desirable* city is one where these codes of the building, the *city makers* and the *city users* coexist in harmony over time, resonating with their aspirations of feelings, activities, and meanings.

The *Desirable Cities*' model of urban semiotics argues that to study and develop genuinely *desirable* cities, city stakeholders must identify and communicate their aspirations effectively so these expected *desirable* urban experiences can be materialised *holistically* and harmoniously. Having specified how stakeholders read and compose meanings in urban settings, the following section considers how those meanings intersect with economic forces, so that symbolic value does not eclipse ecological and social well-being.

19.4. Urban economic model: Understanding the economic dimension of societies and their cities

No exploration of the urban experience would be complete without considering the economic dimension. Economics influences desirability in obvious ways, such as job availability and cost of living, but also in symbolic ways, where a city's prosperity can become part of its image and identity. This section situates cities within their economic

context and explores how economic forces contribute to or undermine urban desirability.

Urban economics occupies a central place in shaping the character and viability of cities. A *desirable* city successfully brings businesses, investments, and diverse populations. Stable employment and robust economic activity can underpin amenities like parks, cultural venues, or well-maintained infrastructure, thereby enhancing residents' quality of life. Yet, as some scholars caution, unbalanced growth risks generating or exacerbating inequality and displacement (e.g., Zukin, 1995). When a city's wealth remains concentrated among the affluent, its desirability may become fragmented, leading to tensions between global prestige on the one hand, and local well-being on the other. Consequently, the *Desirable Cities*' framework questions how much a city grows and *who* benefits from that growth.

From a semiotic standpoint, the *Desirable Cities*' paradigm acknowledges that urban economies are not merely neutral markets but complex systems that interplay with ecological systems, cultural imagery, social relations, subjective experiences and tangible resources. Adopting Peirce's triadic model to urban economic phenomena can examine the *representamen* (perceptions of economic structures), the relationship of perceptions with the object (the *natural*, *cultural* and *constructural* environment conditions shaped by socio-economic forces), and interpretant (the ways city stakeholders understand and response upon these forces). The framework sheds light on how cities' economic processes influence and are influenced by the environment that sustains them. For instance, many post-industrial cities have pivoted to "experience" economies, branding themselves around art districts, tourism, or creative industries. While this strategy can revitalise urban centres, it can also marginalise lower-income communities.

An *interdisciplinary* and *holistic* approach to urban economics, combining professional and historical insights with alternative urban movements, enables *Desirable Cities* to reimagine how economic growth might serve broader ecological, social, and emotional goals. Cities become spaces where economic vitality coexists with inclusivity, cultural authenticity, and resilience. Focusing on both macro-level trends (foreign investment, real estate speculation) and everyday experiences (livelihood, access to community resources) ensures that economic development does not simply cater to the most profitable ventures but enriches diverse constituencies. In this sense, urban economics, through the lens of *Desirable Cities*, reflects an ongoing negotiation between investment-driven imperatives and the collective desire for sustainable, equitable, and meaningful city life.

By considering macro-level theories (urban political economy, globalisation) and micro-level tools (adapting business models), *Desirable Cities* discusses Sharon Zukin's ideas on the symbolic economy, where culture and consumption drive urban appeal, and the potential pitfalls of commodification. It then looks at how the *Business Model Canvas* approach can clarify how a city creates and delivers value, concluding that a *holistic* economic strategy must strike a balance between economic growth without compromising inclusivity, authenticity and ecological balance.

19.4.1. Cities' economics: Analysis of Zukin's reflections on urban economy

Sharon Zukin's work highlights the evolving nexus of culture and capital, reframing how modern cities define and market themselves. She argues that urban redevelopment increasingly relies on cultural and symbolic elements, iconic architecture, art districts, and creative consumption spaces to attract investment, tourism, and upwardly mobile residents. This phenomenon, which Zukin calls the "symbolic economy", underscores that a city's value derives not merely from physical infrastructure or manufacturing capacity, but from its ability to cultivate and monetise cultural cachet.

Zukin traces the classic example of SoHo in New York: once an industrial district, it was re-envisioned through artistic activity and then morphed into an upscale commercial hub. On the one hand, this cultural branding strategy can inject new life into previously neglected areas, sparking economic dynamism and creating spaces that feel lively and engaging. On the other hand, Zukin highlights a darker side: when culture becomes commodified, authenticity may give way to a curated spectacle. Local communities and lower-income tenants can be priced out of their neighbourhoods, as property values and living costs soar. Gentrification, thus, risks converting formerly diverse and organic areas into "*theme park*" versions of themselves, as a sanitised aesthetic targeted at affluent consumers.

Within the *Desirable Cities*' framework, Zukin's observations alert *city makers* to the risks of an economic development model anchored exclusively in cultural glamour. While these symbolic strategies indeed stimulate investments and can enhance a city's global image, they often exacerbate spatial and social inequalities. The overarching message is that cultural assets must be harnessed in a way that benefits all stakeholders, rather than serving solely as a profit vehicle for real estate developers or tourism promoters. A

city's economic vitality should not hinge solely on surface-level appeals or spectacle but should also incorporate inclusivity and local identity, as well as ecological considerations. By incorporating Zukin's cautionary insights into urban planning, *Desirable Cities* aims to preserve and foster genuine character while achieving equitable outcomes in well-being. Cities, in this view, can celebrate culture and symbolic value without sacrificing their authentic communities to rising rents and superficial makeovers, thereby fostering both economic robustness and social cohesion.

19.4.2. Cities' economic canvas: Adaptation of the *Business Model Canvas* to cities' project development

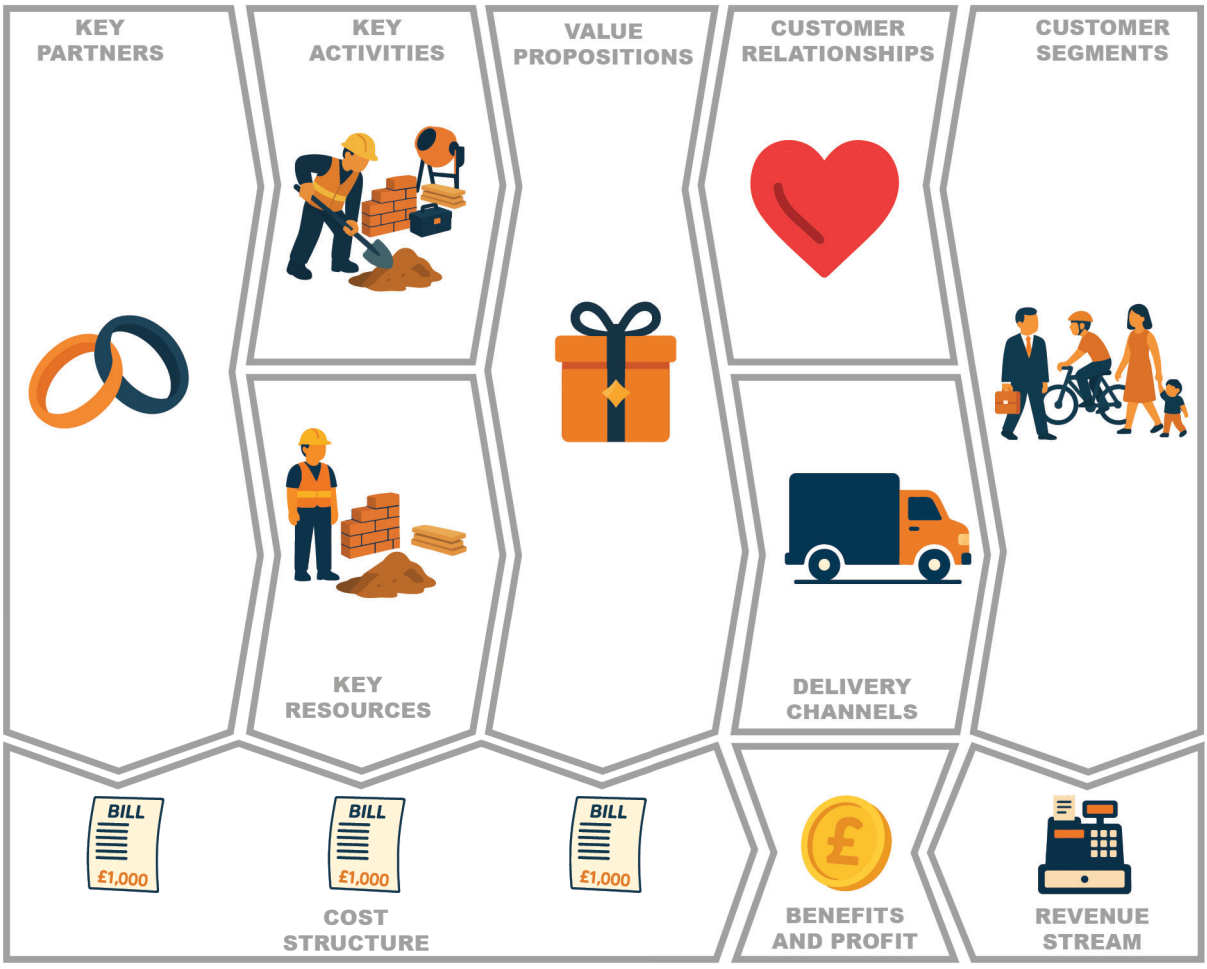


Image 131. *Business model canvas.*

Desirable Cities proposes adapting the *Business Model Canvas* (Osterwalder & Pigneur, 2010) to illustrate how cities can generate and sustain value in ways that extend beyond profit-driven models, offering holistic benefits that include Earth's ecological sustainability, social well-being, and thriving urban spaces. Traditionally, the Canvas maps out elements such as customer segments, value propositions, revenue streams,

and cost structures for businesses. In an urban context, these elements can be reshaped to account for the multiple stakeholders and complex goals of city projects. See *Image 131*: *Business Model Canvas*.

19.4.2.1. Stakeholder segments

Instead of focusing on products for customers, city developments should engage with all stakeholders in the city, including *city makers* and *city users*. Each segment has distinct needs and desires. Therefore, the equivalent of what "*customer segments*" *want* (Osterwalder et al. 2010, 20–21) is the *city stakeholders' expectations*.

19.4.2.2. Value propositions

Desirable Cities encourages cities to develop economic strategies to improve environmental protection, quality of life, and social cohesion. In the *Business Model Canvas*, the "*value proposition*" must be directly linked to the customers' needs and desires. Therefore, within the urban context, city development must provide spaces and experiences that align with the needs and desires of its city stakeholders or offer *desirable urban experiences*. One significant remark is that as in the business model context, the "*value proposition*" must take into account: "*Newness, performance, customisation, 'getting the job done', design, brand, price, cost reduction, risk reduction, accessibility and convenience*", which are all considered to satisfice the "*customers*" even if they are not aware of all these dimensions (Osterwalder et al. 2010, 22–25); for developing city spaces that resonate with city stakeholders' expectations for desirable urban experiences, *holistic* considerations of Earth's ecological stability, social well-being, and thriving urban spaces must be included, even if the city stakeholders are not aware of these necessary and desirable requirements at first.

19.4.2.3. Channels and relationships

How the city communicates and delivers public information (or education), through community centres, digital portals, public forums, or social media, matters for efficiency and inclusivity. Feedback loops, including participatory methods, promote transparency and trust between *city makers* and *city users*. These relationships reinforce the idea that a city's viability depends on ongoing dialogues with its stakeholders. Thus, the equivalent of "*channels*" is the *city makers' communication* channels (Osterwalder et al. 2010, 26–

17), and the equivalent of "*customer relationship*" (Osterwalder et al. 2010, 28–29), it is the *city users' feedback* channels.

19.4.2.4. Key resources and activities

As highlighted in *Desirable Cities*, any city development must adopt a *holistic* approach towards the environment, encompassing resources and activities at both the macro level (the "*context*") and the micro level (the "*code*" of urban spaces and their experiences). This approach broadens the focus to manage *ecological*, *social*, and *infrastructural* aspects. Therefore, Earth's environmental sustainability, social well-being, and thriving urban spaces (equivalent to "*benefits*"), should be achieved with "*key resources"* (Osterwalder et al. 2010, 33–34) or *available urban resources* (including *natural*, *cultural*, and *constructural*), and "*key activities*" (Osterwalder et al. 2010, 36–37) or *urban tools and processes*.

19.4.2.5. Key Partnerships

Collaborations with key groups, institutions and figures can unlock synergies. For instance, a partnership with a local arts group might revitalise a formerly neglected district, enhancing both cultural life and economic prospects. *Desirable Cities* embraces such alliances to benefit a broad cross-section of the community. Thus, the equivalent of "*key partnerships*" (Osterwalder et al. 2010, 38–39) is *urban development's partnerships*.

19.4.2.6. Cost structure and *holistic* benefits

Costs go beyond physical construction or service delivery. A project's real "*price*" must include ecological sustainability, social integrations and development, cultural identity, and thriving urban spaces. To cover these costs, cities obtain revenue from taxes, public-private partnerships, tourism, or innovative funding mechanisms like community land trusts. Redistributing revenue with this *holistic* view of cost is critical to avoiding development that prioritises short-term gains at the expense of long- term well-being. Therefore the equivalent of "*cost structure*" (Osterwalder et al. 2010, 40–41) is *urban development cost*, including *natural*, *cultural*, *constructural*.

By graphically and systematically mapping these components, an *urban economic canvas* helps city stakeholders to see where potential conflicts or gaps might arise. It

also clarifies how benefits and burdens are distributed among stakeholders, encouraging public accountability. While a city is not a corporation, this structured approach imposes strategic clarity, ensuring that urban initiatives genuinely align with broader environmental and societal goals, epitomising the balance at the heart of the *Desirable Cities*' proposal. See *Image 132*: *Urban economic canvas*.

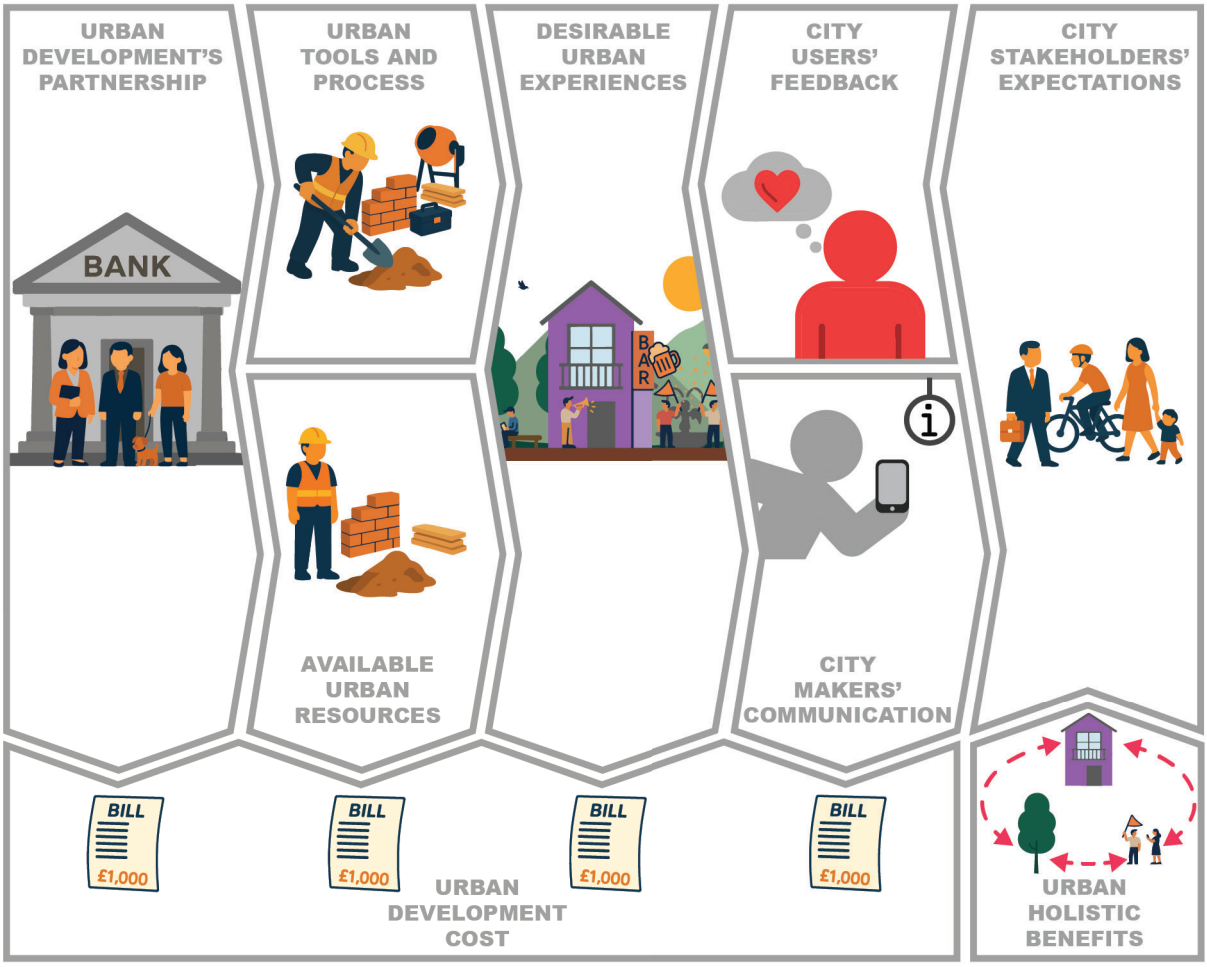


Image 132. *Urban economic canvas.*

19.4.3. Urban economic model:

Conclusion for *Desirable Cities'* model of urban economics

Zukin's cultural-economic reflections, and the adaptation of the "*Business Model Canvas*" to city developments reveals the multifaceted ways in which economic development intersects with ecological responsibility, cultural identity, social equity, and spatial design. At the centre of this approach stands a recognition that cities are not simply arenas for commercial exchange or profit. They are living systems of signs, environments in which Earth's ecosystems, cultural narratives, human interactions and physical structures, continuously shape each other.

By applying a semiotic and urban economics lens, *Desirable Cities* underscores that the "*value*" of an urban project extends far beyond revenue streams or prestige. Zukin's warnings about commodification and displacement further clarify that symbolic economies can foster vibrancy but can also erode the very qualities that made a place appealing in the first instance. Consequently, a *holistic* approach to economic desirability emphasises the need to balance financial priorities with environmental protection, social well-being, cultural authenticity, and the development of thriving infrastructure. This integrated perspective suggests three key takeaways:

Adapting the "*Business Model Canvas*" for city development enables *city makers* to map the economic, ecological, and social costs and benefits associated with their projects. Structuring projects in this way highlights intangible assets, ecological stability, local heritage, social capital, and communal well-being that conventional economic models might overlook.

Semiotic dialogue of *making* and *using* urban spaces functions as a system of signs, where *city makers* and *city users* must collaborate in a communicative process. By empowering all city stakeholders to define their desirable expectations of the city through conscious engagement, growth can resonate with their perceptions, interpretations, and aspirations of the city, rather than solely being driven by economic market dynamics.

Natural-culture-led economic strategies can bridge *city makers'* economic strategies with *city users'* cultural identities and the well-being of all city stakeholders. However, as branding *natural*, *cultural*, and *constructural* amenities attracts tourism and businesses, they should not override the *holistic* approach. All city stakeholders must be aware of how to treat "*symbolic capital*" and desirable urban experiences as a resource belonging to the broader public realm, rather than exclusively leveraging them for individual gain.

A genuinely *desirable* city, then, integrates economic vibrancy and cultural richness without sacrificing environmental integrity or social well-being. By understanding and respecting the urban environment as a semiotic system, in which every infrastructural choice or imagery conveys meaning and therefore affects others, this framework offers a forward-looking blueprint for urban development that is simultaneously economically viable, ecologically balanced, socially inclusive, and supportive of urban life diversity and plurality. This balance between growth and inclusivity underpins the following section, where *Desirable Cities* consolidates the theoretical application into a practical orientation for the empirical work to follow.

19.5. Desirable Cities' theoretical application

Understanding the overlapping of urban communication, semiotics, and economics within the context of Desirable Cities' applications

Having explored perception, semiotics, stakeholder dynamics, communication, and economics, it is now fundamental to synthesise these complementary perspectives into an overarching theoretical framework for *Desirable Cities*. The holistic and interdisciplinary framework integrates ecological sustainability, human perception, people's desirability, urban morphology, semiotic interpretation, stakeholder roles, communication processes, and economic forces.

In simpler terms, it proposes that a city stakeholder's expectations for desirable urban experiences arise from the interplay of:

- Physical form of the environment.

- People's perceptions, interpretations, aspirations, and responses towards the environment.

- City stakeholder collective behaviours and relationships.

- Urban communication process among city stakeholders.

- Urban economic systems.

Suppose one dimension is out of sync, for example. A city is physically well- designed but economically unsustainable, or it has good infrastructure but poor communication with city stakeholders, the desirable urban experiences get compromised. Thus, *Desirable Cities* encourages urban studies and city development to consider each dimension integrally, *holistically* and *interdisciplinary*, with the following key measurements:

- Environment's physical form: *natural*, *cultural* and *constructural* components.

- People's perceptions: *symbolism* (which includes *similarities and indicators*).

- People's interpretations: *imageries* (through *Cities' PIDs*).

- People's aspirations: *expectations of feelings*, *expectations of activities*, and *expectations of meanings*.

- People's responses: *emotions*, *actions*, and *reflections*.

- City stakeholders' behaviour: *city makers* and *city users*.

- City stakeholders' relationship: *city makers* with *city users*.

- City stakeholders' communication: *city makers*' *contextual references*, and

code or *urban references* (*makers' Cities' PIDs*); *city users*' *contextual references*, and *code* or *urban references* (*users' Cities' PIDs*).

Within urban economics, these measurements are articulated as *city stakeholders' expectations* (*Cities' PIDs*); *desirable urban experiences* (*natural*, *cultural* and *constructural* components of thriving spaces); *city makers' communication* (*makers' Cities' PIDs*); *city users' feedback* (*users' Cities' PIDs*); *available urban resources* (*natural*, *cultural* and *constructural* dimensions for a *holistic* development); *urban tools and processes* (from *interdisciplinary* approaches, such as ecology, geography, biology, sociology, psychology, anthropology, ethnography, semiotics, communication and economy); *urban development's partnerships* (from different city stakeholders' groups, institutions and companies); *urban development cost* (*natural*, *cultural* and *constructural* investments for a *holistic* development); *urban holistic benefits* (from *desirable* cities).

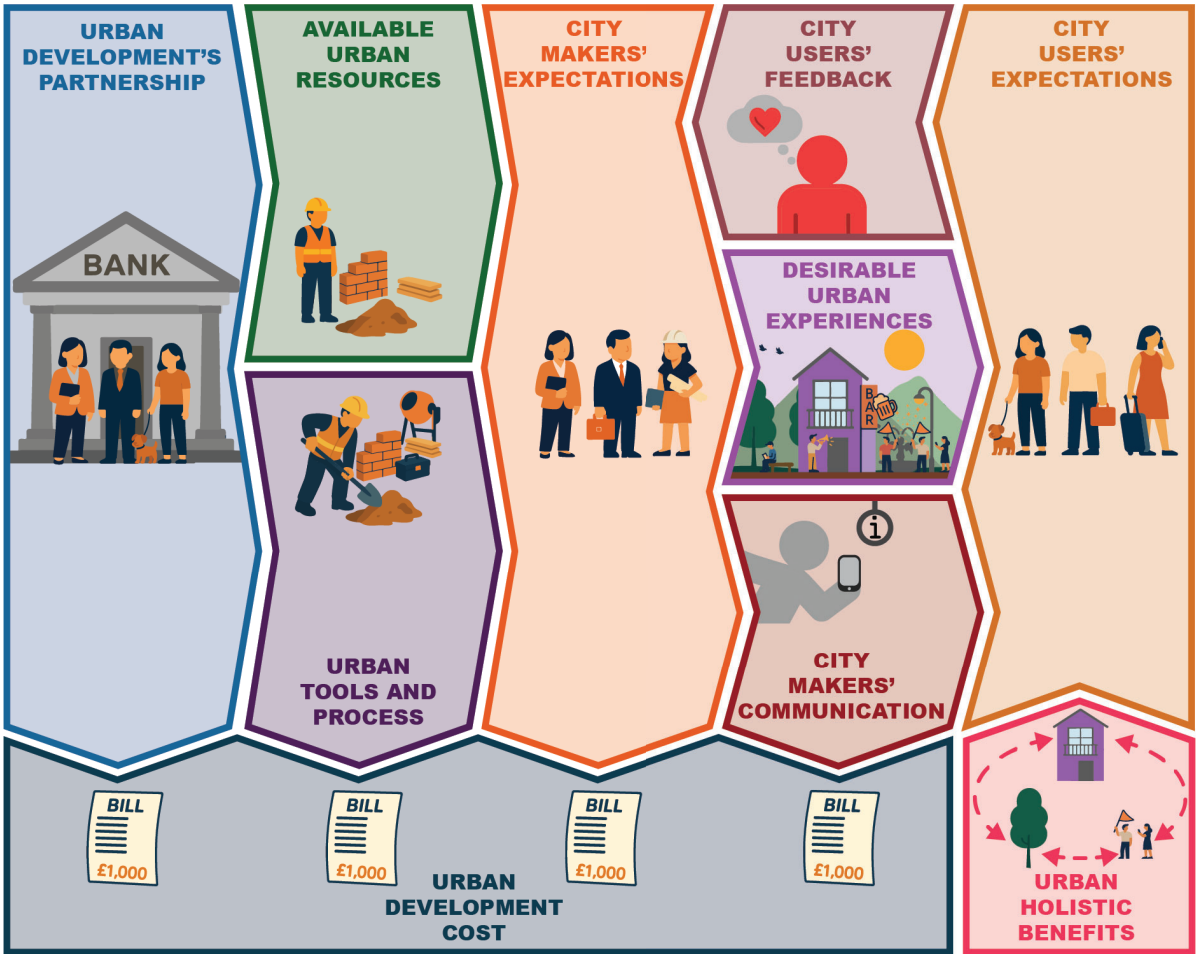


Image 133. *City development canvas and measurements.*

In practice, this integrated approach avoids focusing solely on economic competitiveness and a materialistic approach, promoting economic and environmental resilience, fostering a high quality of life for all city stakeholders, and encouraging civic

engagement among them within meaningful spaces and experiences. It honours the idea that a city must be a *holistically* balanced *natural*, *cultural*, and *constructural* entity shaped by people for all. See *Image 133*: *City development canvas and measurements*.

Desirable Cities' positioning on urban desirability in relation to the appeal of cities as places for people to holistically and harmoniously live, work, or visit. Traditional urban studies and planning literature often frame desirability in terms of measurable factors and outcomes. For example, research highlights attributes such as economic opportunities, safety, environmental quality, and amenities as key drivers of a city's attractiveness. More recent studies defines urban desirability as a composite of economic factors (e.g. median income levels, job availability), social factors (community well-being, education and healthcare quality, low crime rates), and environmental factors (pleasant climate, green spaces, manageable commute times). In this view, a *desirable* city is one that scores well across these indices, like social cohesion, affordable living costs, good public services, and healthy environment.

Urban designers also note the importance of public spaces and social interaction opportunities. Cities that facilitate community gathering and civic life through plazas, cultural events, walkable streets, etc., tend to foster stronger social bonds, which in turn enhance the city's desirability. This mainstream positioning of urban desirability is often aligned with the idea of liveability or quality of life by a set of tangible inputs believed to produce an attractive urban outcome.

While *Desirable Cities* acknowledges the validity of these factors, it positions apart by arguing that such objective indicators alone are insufficient to fully capture what makes a city desirable or how desirability operates. The *Desirable Cities*' framework proposes that how people perceive and internalise those factors is equally important. In other words, urban desirability is as much a matter of interpretation and interaction as it is of provision. This stance emerged from the *holistic* and *interdisciplinary* analysis of expectation for desirable urban experiences through semiotics processes.

Thus, *Desirable Cities* redefines urban desirability as a driving force that encompasses both the material conditions of the city and the symbolic – imagery dimensions that people ascribe to those conditions in terms of wanted experiences. For example, a city could have excellent infrastructure (high material desirability) but if its image is marred by a reputation of being unfriendly or culturally sterile, it may not be perceived as desirable. Conversely, a city with modest resources might be highly desired by its residents because it has a strong sense of community and identity *Desirable Cities* positions itself as a

framework to understand and bridge this gap between objective city and experienced city.

To articulate this positioning, *Desirable Cities* draws on key theories discussed above earlier, like Peirce's "*Pragmaticism*", Debord's critique of the "*spectacle*" and Silva's work on "*urban imaginaries*", which suggest that desirability is often manufactured or undermined at the level of collective perception. A city's desirability can be amplified by effective branding and *imageries* (the *spectacles*) but also requires alignment with the authentic narratives of city stakeholders *realities* (urban *imaginaries*) to be sustainable. Lacan and Girard's theories introduce the idea that desire for a city is not merely rational choice but is interwoven with unconscious longings and social *mimicking*. People may desire an urban lifestyle because it represents something to their identity (Lacan's Ideal-I formed in relation to the urban "Other") or because they see others desiring it (Girard's mimetic desire). This means urban desirability has a dynamic character, as it grows and shifts as a sort of dialogue between individuals and the collective communities of the city.

Therefore, *Desirable Cities* positions in contrast to approaches that treat desirability as static or solely data-driven. Instead, it aligns with a dynamic semiotic process, that in practical terms, means that desirability is co-produced by *city makers* and *city users* interaction, enhanced by the communication between these city stakeholders so that desirability is pursued not just as a top-down objective (e.g., improving liveability scores) but also from bottom-up inputs (e.g., public reappropriation of urban spaces). The positioning of *Desirable Cities* in terms of urban desirability is that of a mediator. It does not discard the classic formulas of a desirable city identified by urban studies (e.g., cleanliness, safety, opportunity, etc.), but it embeds them in a broader semiotic context. According to this framework, a genuinely desirable city possesses desirable features and aligns with the expectations of city stakeholders for their desirable urban experiences, in harmony with the required *holistic* approach. This positioning sets the stage for the methodologies and tools that *Desirable Cities* developed to enhance city stakeholders' possibilities to identify and communicate their expectations for desirable urban experiences. *Part Five* operationalises this framework within the empirical field, specifying instruments, protocols, sampling logic, and comparative criteria to test whether the tools elicit richer, more integrated expectations for *desirable* urban experiences.

20. INTRODUCTION TO *DESIRABLE CITIES*' EMPIRICAL APPLICATION

The interpretive process of city stakeholders' expectations for desirable urban

experiences anchors *Desirable Cities*' notion of *Cities' PIDs* with individuals' sensorial capacities, allowing them to perceive and interpret the urban physical environment. Consequently, *Desirable Cities* adapts the theoretical framework to an empirical application by adopting a multi-method strategy, with semiotic analysis, ethnographic methods, and urban visual tools, to systematically identify and interpret these shared experiences. Urban visual tools convey the participants' *Cities' PIDs* (for example, having a coffee in a popular boulevard). Ethnographic methods capture direct testimonies and contextual observations of city stakeholders, from which links of associations emerge (e.g., metaphors that connect drinking a coffee outdoors to a symbol of urban sophistication). Semiotic analysis reveals the entire relationship of experiences (*natural*, *cultural*, *constructural*), encompassing perception (*symbolism*), interpretation (*imageries*), and responses (*emotions*, *actions*, and *reflections*), allowing participants to identify and communicate their expectations (e.g., drinking coffee in this trendy boulevard makes me feel not only successful, but also allows me to understand better the behaviour of people in my city).

20.1. Urban Laboratory: A review of empirical research that had adapted the same theories selected by *Desirable Cities* into environmental or aesthetic studies

20.1.1. Applying *Pragmaticism*: Empirical studies that applied Peirce's *Pragmaticism* for environmental or aesthetic analysis

Peirce's semiotic analysis has been implemented in various domains. In visual arts and architecture, Peirce's semiotics provides insights into aesthetic appeal, information retention, and *cultural* symbolism (Alton 2010; Rayluna 2024; Ryan 2009). The theory extends to spatial analysis, offering a framework for interpreting built environments and landscapes (Määttänen 2007; Knudsen et al. 2016; Metro-Roland 2009; 2011). Peirce's concepts of iconicity, indexicality, and symbolism prove valuable in understanding art, from Hudson River School paintings to modern poetry (Guardiano 2023). While Peirce didn't develop a comprehensive philosophy of art, his metaphysical principles lay groundwork for novel aesthetic reflections (Ibri 2010). Beyond traditional artistic realms, Peircean semiotics finds application in financial markets, elucidating the interpretation of stock indices by traders (Duterme 2023). These diverse studies demonstrate the versatility and enduring relevance of Peirce's semiotic theory across multiple disciplines, from aesthetics to economics.

Peirce's *Pragmaticism* foregrounds the real-world repercussions of interpretative processes, demonstrating that city signs, ranging from people's activities, buildings, corporate logos or graffiti, exert tangible effects on public sentiment, spatial behaviour, and local identity formation. Empirical research, such as sign-oriented analyses, has highlighted how official marketing (e.g., municipal slogans) or unofficial expressions (e.g., street art) influence people's flows, spur collective pride, or signal social tensions (Bellentani et al. 2024, 1–11). Multi-resolution research, which integrates qualitative interviews with geospatial data, offers a nuanced lens to trace how diverse *interpretants* arise from a single urban sign, revealing hidden cultural factors such as nostalgia, scepticism, or community solidarity (Bellentani et al. 2024, 7–11). This approach underscores the call for *interdisciplinary* collaboration, emphasising that numerical data alone cannot capture the rich, intangible layers of meaning guiding everyday urban life (Goharipour and Gibson 2023, 1–17). Nonetheless, critics caution against overlooking broader structural forces, like socio- economic inequities or governance policies, that can reshape or constrain symbolic processes (Karvonen et al. 2021, 1–13). The *Desirable Cities*' paradigm responds by merging sign analysis with ethnographic fieldwork, acknowledging the interplay of local power imbalances, cultural narratives, and policy contexts. Consequently, *Pragmaticism*'s insistence on the triadic of sign interpretation affirms the potency of semiotic insights for shaping inclusive urban interventions. Practical case studies demonstrate that semiotic reflections on signage or branding can reveal social complexities, ranging from gentrification disputes to environmental activism, thereby aiding *city makers* in designing responsive and culturally resonant strategies. As urban spaces confront global challenges, like climate change and social inequality, the potential for sign-oriented research to drive adaptive and stakeholder-engaged solutions becomes increasingly apparent (Gillespie et al. 2024, 1–17).

In this context, Peirce's *Pragmaticism* intersects with broader critiques of conventional urban studies, which often rely on quantitative, natural science- dominated paradigms that may fail to appreciate the subjectivity and dynamism inherent in city life (Wiener 1974, 551–70; Goharipour and Gibson 2023, 1–17). Advocates of an *interdisciplinary* methodology argue that integrating qualitative, humanities-oriented insights can deepen people's understanding of how signs perpetuate or challenge established power structures (Karvonen et al. 2021, 4–9). Consequently, *Desirable Cities* underscores the necessity of combining interpretive sign analyses, such as those revealing nostalgic or sceptical readings of urban slogans, with concrete policy actions guided by city stakeholders. This synergy ensures that intangible symbolic energies evolve into practical,

actionable frameworks for *city makers*. For instance, where sign analysis identifies collective concerns about a redeveloped waterfront, *Pragmaticism* suggests that *city makers* must engage directly with *city users*, transforming semiotic clues into inclusive interventions. Such real-world applications confirm that sign-based approaches are hardly academic abstractions, but rather potent catalysts for rethinking city development, heritage preservation, and sustainability initiatives (a *holistic* approach). As these models proliferate, the emphasis on dialogue with community actors, iterative mixed-method designs, and context-sensitive data helps mitigate the risk of overly theoretical readings. Altogether, the continuing exploration of Peirce's *Pragmaticism* provides a robust avenue for bridging cultural interpretation and policy innovation (Goharipour and Gibson 2023, 1–17), thereby aligning with the *Desirable Cities* ethos of enabling *holistic*, *desirable* urban environments.

As a case study, Farias and Queiroz's application of Peirce's full sign categorisation offers precisely such a process as case study, because it demonstrates that actual visual artefacts ("*hypoicons*") must be treated as iconic "*sinsigns*" that manifest three progressively complex modes of similarity: "*images*" (qualitative likeness), "*diagrams*" (structural correspondence) and "*metaphors*" (law-like analogy) (Farias and Queiroz 2006, 290–92). By embedding these modes within a Peirce's continuum from "*firstness*" to "*thirdness*", the semiotic theory converts into a portable coding scheme. In the case of *Desirable Cities*, such portability is essential to link city stakeholders' *emotions*, *actions* and *reflections* with city spaces' *natural*, *cultural* and *constructural* components.

This process involves two complementary moves. First, during elicitation, *city makers* and *city users* are invited to select visuals that express their relation to a chosen public space (field of research). Each visual is immediately classified by the participants according to whether its communicative force lies in sheer sensory resemblance, abstract relations or analogies, that transfer meaning from one experiential register to another, or "*metaphor*" (Farias and Queiroz 2006, 294–96). Second, during analysis, each "*hypoicons*", or in the case of *Desirable Cities* the *Cities' PIDs* is cross-tabulated with the *natural*, *cultural* and *constructural* of the environment that it references. The resulting six-cell matrix (three city stakeholder's responses × three city spaces' components) articulated by the *Cities' PIDs* produced a nuanced empirical map of what participants expected of the urban experiences from which desirable urban experiences emerge, thereby advancing *Desirable Cities'* goals. Thus, Farias and Queiroz's "*hypoicons*" framework becomes a replicable case- study protocol, anchoring *Desirable Cities'* empirical experimentation in a robust semiotic methodology.

20.1.2. Applying desirability: Empirical studies that applied Lacan's and Girard's theories of *desire* for environmental or aesthetic analysis

The application of Lacan's work to other fields of knowledge and practices makes sense because it provides insights about the conscious and unconscious behaviours of people, which is fundamental. Several authors utilise Lacan's concepts, such as "*signifiers*" and "*desire*" to analyse urban planning practices and decision- making processes (Bullock 2014, 280–82; Hillier and Gunder 2005, 1053–58; Wang 2022, 156–65). The graphs related to desire are specifically mentioned as a tool for representing design theory discourse by Yan, Zhang, Peng and Xu (Yan et al. 2020, 1151–58). Researchers apply Lacan's frameworks to examine various urban contexts, including integrated resorts in Singapore (Bullock 2014, 283–90), urban villages in the UK (Wang 2022), and development assessment planning (Hillier and Gunder 2003, 225–32). Some studies integrate Lacan's theory with other approaches, such as planning theory and "*phronesis*" (Gunder 2010, 299–306), and aesthetic design thinking (Ahmad Nia and Atun 2016, 37–44). The research demonstrates how Lacan's analysis can provide insights into the complex relationships between urban spaces, identity, and people's behaviours and expectations in relationships (Gunder 2010, 306–12).

Qualitative methodologies, such as in-depth interviews, phenomenological inquiries, and observational case studies, can reveal how intangible experiences, like the longing for prestige or fear of social decline, manifest in urban settings (Cameron and Forrester 2014, 41–56; Kingsbury and Pile 2014, 1–18). Researchers might track eye movements to gauge emotional reactions to certain architectural forms or conduct "walk-alongs" to hear participants articulate unconscious desires triggered by urban landmarks (Milliken et al. 2021, 75–89; Parsons and Schuyler 2002, 172–79). Moreover, a transactional perspective frames the person and environment as mutually influential, challenging the notion of a stable, autonomous subject (Gifford et al. 2011, 440–46). By applying Lacan and Girard in these contexts, it becomes evident that desire is not strictly individual but shaped by linguistic, cultural, and social relationships, merging intangible personal expectations with broader collective patterns.

The practical applications of these theories are multifold. First, *city makers* informed by psychoanalytic and mimetic insights can craft urban spaces that speak to deeper emotional needs and desires by recognising the symbolisms and imaginaries that inform *city makers*' expectations (Degen et al. 2008, 1901–8). Biophilic design, often lauded for

its “restorative” qualities, might be re-examined through the lens of desire, ensuring that incorporating nature does not simply default to a superficial aesthetic fix (Assche et al. 2023, 40, 99–100). Similarly, therapeutic environments, from hospitals to communal art centres, can be enhanced by understanding how spatial elements trigger subconscious feelings of safety, aspiration, or community (Anthony and Watkins 2002, 129–36; Day and Calkins 2002, 374–81). Second, this lens clarifies how certain architectural styles gain a “prestige” reputation, prompting mimetic replication and potentially fuelling gentrification. Recognising these cycles allows stakeholders to mitigate exploitative urban trends while supporting inclusive growth. Third, exploring psychoanalytic dimensions in the city opens pathways to investigating pro-environmental or pro-social attitudes, especially among younger populations where identity formation often intersects with ecological values (Korpela 2002, 243–48).

Looking ahead, future research can delve deeper into how Lacan’s and Girard’s theories might inform pro-environmental behaviour or broader sociocultural shifts (Semenov 2021, 146–57). For instance, by mapping how children form mimetic desires around greener lifestyles, *city makers* could refine park designs or educational outreach to nurture ecological awareness (Korpela 2002, 248–54). Additional longitudinal studies could illuminate how desire-based trends evolve over time, possibly steering city development in unexpectedly positive or negative directions (Korpela 2002, 248–54). Overall, integrating Lacan’s concept of the desirable “*gaze*” and Girard’s mimetic desire with urban aesthetics allows *Desirable Cities* to capture the psychological underpinnings of spatial interactions. This intersection underscores that intangible experiences, like longing for status, fear of exclusion, or aspiration for communal harmony, can profoundly shape how individuals navigate and transform urban landscapes. Moreover, the synergy between psychoanalysis and city-making highlights that design does not merely impose behaviour but co-evolves with social and personal desires. Recognising these dynamics is key to cultivating environments that genuinely fulfil the nuanced needs of diverse urban communities.

Applying Lacan’s and Girard’s theories to the study of urban desirability deepens people’s grasp of the interplay between environment and psychology (Kingsbury and Pile 2014, 19–33). Far from remaining abstract, these concepts help explain how unconscious drives, fantasies, or mimetic impulses influence tangible expectations, whether through rebranding a neglected district or shaping which coffee shops thrive. This psycho-social lens reveals that *city users* are not purely rational agents; instead, they are constantly

negotiating individual desires with cultural narratives, symbolic codes, urban imageries, and psychological responses, that accommodate human complexity, promote well-being, and bridge the gap between aesthetic form and lived experience (Assche et al. 2023, 99–100).

Lacan's graph of desire has proven to be a remarkably versatile analytical tool, although it was initially developed for clinical psychoanalysis purposes. Perhaps the most extensive application of Lacan's graph has been in film theory and art criticism. Film theorists have used the graph to articulate the complex relationship between the signifying chain of the narrative and the underlying vector of desire that drives it. As a Case study, Slavoj Žižek has argued that cinema is the "*ultimate pervert art*" because it does not simply explain what desire is, but rather how desire structures fantasies (Žižek et al. 1992, 9–18). His analyses of films, from Hitchcock's Vertigo to The Matrix, demonstrate how the graph can be used as a tool for ideology critique, revealing the hidden logics that shape people's enjoyment and beliefs. Similarly, Joan Copjec has used Lacan's theory to evaluate film noir critically, noting the "*recurrent emptiness of urban spaces*" as a key to understanding its relationship with desire and the law (Copjec 1994, 33–46). These diverse applications validate the graph of desire as a robust analytical framework. It provides a rigorous method for moving beyond surface- level interpretations to explore the unconscious fantasies, symbolic structures, and mimetic desires that shape people's aesthetic and spatial worlds. This proven utility in other fields confirms its suitability as a tool within the *Desirable Cities* framework for uncovering the deep-seated expectations that city stakeholders have for their urban environments.

20.1.3. Applying communication models: Empirical studies that apply Bühler's and Jakobson's models of communication for environmental or aesthetic analysis

In urban contexts, communication models developed by Bühler and Jakobson offer significant insights into how varied stakeholders, policymakers, residents, and visitors use language and symbols to navigate and shape city spaces. Bühler's model, for instance, highlights three communicative functions: expressive (conveying the speaker's emotions), indicative (pointing to a referent), and conative (aiming to influence action). In a case study by Goffman, these functions explained why certain signs, adverts, or public announcements in New York City successfully engaged inhabitants; they are not only meant to direct or inform, but also resonated emotively, prompting behavioural

changes or emotional connections. Meanwhile, Jakobson's functions of communication, referential, emotive, conative, phatic, metalinguistic, and poetic, illuminate the broader stylistic and relational features of city messaging, whether on physical signs or digital platforms (Jakobson 1978, 353–57). Social media, in particular, amplifies emotive and poetic appeals, allowing local campaigns or narratives to spread rapidly, shaping how *city users* perceive distinct public spaces. *Desirable Cities* integrates these perspectives, recognising that intangible cultural and emotional cues, like pride or defiance, can transform how municipal signage is received. By identifying how conative or emotive appeals spark civic engagement or social discourse, urban researchers can better gauge why specific public initiatives succeed or fail. Ultimately, mapping these communication functions underscores that subtle linguistic or symbolic touches can profoundly impact collective behaviour and identity within cities.

As case study, Scollon and Scollon's geosemiotic analysis demonstrates how signage in public space used "*expressive*", "*indicative*", and "*conative*" functions to guide interactions between "*planners*" (*city makers*), "*residents*", and "*tourists*" (*city users*). The findings revealed that signs transcending mere directions, by appealing to emotions or inviting to participation, stimulated more dynamic and interactive city experiences. This suggests that well-designed signage can facilitate ongoing dialogue between city spaces and city stakeholders, enhancing a sense of ownership and empathy for local issues. Signs that aligned with all three of Bühler's functions were particularly effective, bridging the intangible realms of sentiment with practical guidance. This case study supports *Desirable Cities*' stance that intangible, emotive, and communicative elements can significantly bolster the success of urban interventions (Scollon and Wong Scollon 2003, 8–15, 122–30).

Additionally, Palaver's research employed Jakobson's model, which includes "*referential*", "*emotive*", "*conative*", "*phatic*", "*metalinguistic*", and "*poetic*" components, to examine how *city users* shape online discourses about London's public spaces. Analysis of social media content, such as tweets and Instagram posts, showed how "e*motive language*" and "*poetic framing*" can influence others' perceptions and heighten a space's visibility or desirability. Users posted aesthetically charged images of parks or markets, accompanied by captions resonating with "*poetic*" and "*emotive*" functions, thus constructing or reinforcing collective identities around specific neighbourhoods. This process not only shaped digital impressions but also influenced real-world visitation patterns. Consequently, the study highlighted that intangible cultural codes and emotional

resonances could be just as decisive as formal design when determining how a space is perceived. By integrating such communicative insights, urban planners in *Desirable Cities*' contexts can recognise and harness community-driven narratives that emerge from digital platforms, rather than relying solely on traditional information channels (Jakobson 1978, 353–57).

Collectively, these case studies highlight how Bühler's and Jakobson's models enhance urban research by examining the nuanced ways language and symbols function in city spaces. "*Emotive*" or "*poetic*" messaging can prove crucial for galvanising community participation, while purely referential or instructive statements risk being overlooked. Furthermore, as *Desirable Cities* notes, intangible linguistic cues tied to local culture, such as humour, nostalgia, or pride, can bridge the gap between official objectives and resident engagement. Digital media's capacity to rapidly multiply "*conative*" and "*poetic*" appeals magnifies these phenomena, expanding how place identities form or shift over short timeframes. Methodologically, applying communication models demands detailed observations of textual, visual, and auditory elements that shape how city stakeholders perceive, interpret, and respond to urban experiences observed physically or through media. Researchers can map how *Cities' PIDs* emerge. Ultimately, embracing these theories enables *city makers* to develop more *holistic desirable* cities.

20.2. Urban semiotic analysis: Understanding semiotic analysis to unveil the aesthetic relationship between cities' stakeholders and their cities' spaces

Desirable Cities' focus is on how intangible realms, like collective memory or symbolic appropriation, merge with physical infrastructures. Gillian Rose's "*visual methodologies*" are instrumental for *Desirable Cities* in tracing how images of city life circulate and influence the perceptions of city stakeholders, further amplifying the interpretive cycle. Understanding these circulations affirms the notion that the aesthetic qualities of an urban site cannot be reduced to design alone; instead, they are co-produced by cultural narratives, visual representations, and user-driven interpretations. In short, urban semiotics analysis reveals the elusive ways in which intangible symbols and *cultural* codes intertwine with the *constructural* and *natural* environments.

Rose highlights the persistent presence of visual experiences in contemporary life, including advertising, television, architecture, and urban design (Rose 2006, 1– 18, 135–56). She contends that individuals are continually exposed to images shaping their

perceptions of the world, necessitating a rigorous framework for analysis. This approach goes beyond casual observation or personal impressions, instead situating images in their broader social, economic, and cultural contexts to uncover both overt and subtle messages. Rose delineates four key sites of analysis, the production of the image, the image itself, its circulation, and the audience, that together offer a systematic entry point into visual culture. At the production stage, researchers must scrutinise factors like creator motives, the technologies employed, and underlying political conditions. By doing so, they reveal how structures of power might shape an image's conception long before it reaches the public. In urban contexts, this dimension proves vital: official tourism campaigns, social media posts, and even impromptu street photography can all recast perceptions of city living. Rose further prompts scholars to examine the image's aesthetic and compositional qualities, which may evoke emotional responses or reinforce sociocultural norms (Rose 2006, 12–18, 286–91). Consequently, her methodology supports a deeper comprehension of how visual messages function as carriers of social values and aspirations.

Beyond examining the creation and inherent properties of images, Rose's methodology emphasises how images circulate across various platforms and the impact this circulation has on different groups. In a fast-paced digital era, an image of a city's skyline, for instance, can rapidly traverse social networks, shaping collective narratives about modernity or cultural heritage. Different audiences, ranging from local residents to international tourists, recontextualise and reinterpret such images based on their cultural backgrounds, personal experiences, and social environments. Rose's focus on "audiencing" thus illuminates the active role of viewers, who may consciously or unconsciously, transform an image's meaning (Rose 2006, 1–18, 286–91). Under *Desirable Cities*, this recognition becomes key to understanding how intangible elements, such as nostalgia, civic pride, or social aspirations, emerge in the collective psyche. Moreover, the circulation site provides insight into how select images can dominate discourse, overshadowing more nuanced or grassroots representations of urban life. When researchers map these cycles of dissemination and consumption, they expose the interplay between mainstream urban branding and local counter- narratives. Such an approach affirms that images do more than reflect the city, they actively reconfigure how stakeholders perceive and position themselves within its spaces.

Rose's framework also adopts semiotic and psychoanalytic tools to enlarge the scope of visual analysis. Semiotic inquiry helps decode denotations (the literal content) and

connotations (the implied or symbolic meanings) within images, directly resonating with Peirce's triadic model: *object*, *representamen*, and *interpretant* (Peirce 1960b, 228–31). In the realm of urban studies, this entails examining how a photograph of a new public plaza or mural can evoke specific ideals, such as inclusivity or trendiness.

Integrating Rose's visual methodologies with *Desirable Cities* fortifies the project's capacity to capture subtle cognitive and affective processes influenced by architectural forms, street imagery, and other visual cues. Such integration highlights the iterative dialogue between *city makers* and *city users*. By applying Rose's approach of scrutinising production, content, circulation, and audience, *Desirable Cities* can critically assess the *Cities' PIDs* of city stakeholders. This dynamic approach not only documents how images shape attitudes but also interrogates which narratives hold power within the urban phenomena.

20.3. Urban ethnography methods: Understanding anthropological and ethnographic methods of studying people's relationship with their environment

Urban ethnography can reveal how intangible factors, such as memories, cultural norms, and emotional attachments, directly impact how people perceive and inhabit city spaces. While traditional urban studies often emphasised physical layouts or quantitative metrics (e.g., population density, land-use patterns), anthropologists and sociologists demonstrated long ago that lived experiences transform social spatial opinions. While semiotic analysis clarifies how sign networks operate, ethnographic immersion captures how individuals reappropriate or contest those signs in practice. Through interviews, participant observation, and informal conversations, researchers document the nuanced ways city stakeholders interact with the city's spaces. Moreover, the subtle interplay between intangible desires and physical structures becomes evident, as local narratives reveal how architectural elements, such as archways or bench designs, evoke emotions tied to cultural memory. Researchers can identify discrepancies between municipal intentions and community interpretations, underscoring the importance of open dialogue among all stakeholders in the city.

Thus, as *Desirable Cities* applies ethnographic tools, it recognises that intangible attributes, which shape a city's desirability just as much as material conditions do, reveal how cultural customs or personal histories guide the use of city spaces. Kevin Lynch's established the concept of walking tours and mental mappings illustrates a further

extension of ethnographic engagement, allowing for a finer-grained comprehension of intangible aesthetics and emotional undercurrents in daily city life (Lynch 2006, 185–204). Ultimately, by weaving anthropological depth into semiotic interpretive structures, *Desirable Cities* consolidates a *holistic* and interdisciplinary approach to reveal the full spectrum of expectations for desirable urban experiences.

In *The Image of the City*, Lynch identified five core elements ("*paths, edges, districts, nodes, and landmarks*") that people consistently rely upon to make sense of the urban fabric (Lynch 2006, 14–16). This identification marked a critical shift away from purely formal or statistical analyses of city design towards a more human-centric view of how people experience cities through their "*images*". Indeed, Lynch's interviews, mental mapping, and participant observation techniques were groundbreaking, focusing on how the perceptual "*images of the city*" can affect orientation. His approach revealed that the city's appearance matters and highlighted the emotional resonance of specific streetscapes, often overlooked in traditional planning frameworks.

By concentrating on subjective experiences, Lynch opened the door for contemporary urban scholars to explore how daily practices, memories, and symbolic interpretations shape a community's sense of place. Consequently, he critiqued urban design practices that neglected aesthetic and experiential dimensions, urging designers to treat cities as "intended landscapes" needing artistic and empathetic treatment (Lynch 2006, 498). Paths refer to the routes that people travel (e.g., streets or walkways), edges that demarcate boundaries (such as shorelines or walls), districts that encompass broader neighbourhood zones with shared traits, nodes that constitute focal gathering points, and landmarks that stand out as easily recognisable reference points. In practice, these elements establish mental "*images*" of the city, enabling people to orient themselves and form deeper attachments to specific locations.

Lynch's application of interviews and field observations showed that a city's "*legibility*", or ease of comprehension, can significantly influence individual satisfaction and a sense of belonging. He documented personal reflections in travel journals, highlighting how local context, whether in a historic district or a modern commercial hub, alters emotional responses (Lynch 2006, 185). His "*process of community visual survey*" similarly captured residents' subjective impressions, culminating in a richer understanding of local identity (Lynch 2006, 264). By illuminating the role of personal engagement with urban forms, Lynch underscored that city design should foster clear orientation, unique character, and the potential for emotional resonance, thus going beyond mere functionality.

Another of Lynch's notable contributions is the concept of a "walk around the block," exemplified by his collaboration with Malcolm Rivkin (Lynch 2006, 185). This exercise invited participants to traverse familiar neighbourhoods and record frank observations, sketches, and immediate reactions. By capturing real-time reflections, Lynch demonstrated how intangible, subjective responses can significantly shape how people perceive the physical environment. The synergy between walking-based experimentations and structured visual elicitation tools allows researchers to connect intangible experiences with physical urban spaces.

Lynch's emphasis on recognising the "*possible city*" as a flexible environment capable of evolving with changing demographic, technological, and cultural dynamics (Lynch 2006, 771). Such an environment is not utopian in the traditional sense but integrates human aspirations, community, safety, beauty, and belonging into tangible design choices (Lynch 2006, 789). From a *Desirable Cities*' standpoint, this notion underscores the importance of intangible qualities, such as emotional resonance and social well-being. By focusing on users' perceptions and the experiences of space, new city developments can enrich existing community fabrics. Consequently, Lynch's work supports the stance that urban design must continually adapt to the interplay of *natural*, *cultural*, and *constructural* environments.

By merging practical observation with conceptual theory, Lynch established methods that continue to inform academic and professional approaches to city- making. His framework supports a balanced interplay of objective spatial analysis and subjective, ethnographic data. Modern scholars extend Lynch's legacy by integrating advanced geospatial technologies, community workshops, or participatory mapping efforts, all while retaining the core of his approach. *Desirable Cities*, for instance, leverages semiotic analysis to interpret the symbolic dimension of cityscapes, aligning with Lynch's recognition of how aesthetic form and cultural meaning interface.

By examining how inhabitants mentally map their settings, he revealed that cities are, in large part, products of perception. In *A Theory of Good City Form*, he reiterated that aesthetic engagement and clarity of form contribute significantly to public satisfaction and civic life (Lynch 2006, 771–89). This perspective aligns with the *Desirable Cities*' methodologies, such as in-depth walking interviews, visual diaries, and mental mapping. *Desirable Cities* confirms that intangible factors hold substantial influence in shaping city stakeholders' expectations for desirable urban experiences. As a result, Lynch's methods remain highly relevant to contemporary efforts that position users at the

forefront of design; the city evolves as a place of shared creativity and cultural reflection, rather than a sterile backdrop for economic transactions. In this way, the synergy of Lynch's principles with *Desirable Cities*' preliminary studies sets the stage for developing didactical tools, such as tours and visual prompts, to gain scientific insights from city stakeholders' expectations for desirable urban experiences.

20.4. Urban visual tools: Understanding visual tools as part of ethnographic methods for assessing people's imageries of their environment

Visual tools, including cameras, cards, and canvas, have become practical tools in urban ethnography for capturing data on people's perceptions, interpretations, aspirations and responses within the urban environment, which might otherwise remain hidden in text-based methods (Barley and Russell 2019; Carpenter 2022; Crang 2010; Oliveira and Vearey 2015; Pink 2001; Warren 2002; Zuev and Bratchford 2020). The possibility of recording people's behaviour through videos and photographs (cameras), of interacting with their conscious and unconscious ideas about urban experiences through playful thematic flashcards and diagrammatic templates (cards and canvas), allows individuals to "*show*", rather than merely "*tell*", revealing feelings, expressions, and thoughts, that verbal questionnaires might not fully convey. Furthermore, these tools bridge the gap between a researcher's observational standpoint and participants' lived realities. *Desirable Cities* leverages these visual tools to reveal where official narratives and grassroots perspectives converge or diverge, providing valuable feedback loops for policymakers and community advocates. This multimodal capture converts tacit imaginaries into analysable *Cities' PIDs* without flattening their phenomenological nuance.

For *Desirable Cities*, visual elicitation tools are crucial for understanding how intangible elements, such as civic pride, communal memory, or aesthetic preferences, inform how people expect to experience their urban spaces. These tools align with Peirce's triadic framework, wherein the recorded images from cameras, or the illustrations used in the cards and canvas are representations ("*representamen*") of the urban spaces and experiences (*object*), from which participants' interpretations of their personal experiences can be extracted (*interpretant*) to understand their expectations (aspirations from previous psychological responses). In addition to this, Peirce's explanations about how signs constantly evolve as *interpretants* accumulate in particular social and historical

contexts, encourage researchers to acknowledge that visual evidence is not neutral; it emerges from specific power relations and interpretive filters, which highlights the importance of separating *city makers* and *city users* when applying these tools. Despite their strengths, visual tools require careful ethical consideration, notably regarding consent and privacy, as images may inadvertently perpetuate stereotypes or expose sensitive aspects of participants' lives. Hence, *Desirable Cities* ensures protocols are in place regarding informed consent and fosters open dialogue about how visual data will be used and interpreted. By systematically reflecting on these biases, *Desirable Cities* sustains the integrity of its data, ensuring that visual insights are contextualised rather than taken at face value.

The incorporation of visual tools in *Desirable Cities* thus serves a dual purpose: to enrich data collection and to promote more participatory, egalitarian research. Cameras, cards and canvas collect compelling evidence of urban life and empower participants to define what is worth documenting. Such collaboration underscores the project's commitment to acknowledging multiple viewpoints, especially crucial when investigating how intangible factors, such as *cities' PIDs*, influence people's expectations of desirable urban experiences. These visual tools, together with ethnographic immersion and semiotic analysis, reinforce the *holistic* and *interdisciplinary* approach of *Desirable Cities*, ensuring that urban environments are studied as complex, *natural*, *cultural* and *constructural* systems.

20.4.1. Cameras

Video ethnography has emerged as a valuable method for studying complex social interactions in diverse settings. This approach combines video recording with traditional ethnographic techniques to capture detailed data on behaviour, communication, and environmental factors (Paterson et al. 2003; Stevens et al. 2017). Researchers have used video ethnography to study various contexts, including second language acquisition (DuFon 2002), family life (Aarsand and Forsberg 2010), childbirth (Davis Harte et al. 2014), informing the development of health information technologies and improving understanding of clinical work practices (Hostgaard and Bertelsen 2012). The method presents challenges, such as ethical considerations and participant recruitment (Stevens et al. 2017), but offers unique insights into social practices and material-discursive interactions (Aarsand and Forsberg 2010). Advanced techniques like first-person perspective recording (Lahlou 2011) and integration with other data sources

(Crabtree et al. 2006) have further enhanced the potential of video ethnography.

In urban studies, researchers have employed various techniques, including mobile cameras for video tours (Kaczmarek 2020), and the complexity of urban phenomena (Anzoise et al. 2017). These studies demonstrate that the use of cameras in urban ethnographic research serves multiple functions, enabling a nuanced capture of urban experiences as they unfold in real time through videos and photography. Wearable technologies and mobile phones are transforming urban experiences and documentation of city aesthetics. Smartphones enable new spatial practices, allowing users to "*wear the city*" and create embodied spatial memories (Kalin and Frith 2016). These devices facilitate dense documentation of urban life, providing historical records of places over time (Krieger et al. 2010). *Desirable Cities* capitalises on the rich insights that video and photographs can bring as immersive visual records for understanding everyday life in the urban context, ensuring that visual data enriches, rather than distorts, local perspectives.

The use of cameras as methodology aligns seamlessly with *Desirable Cities*' mission to integrate Peirce's semiotic framework into urban ethnography. The recorded image ("*representamen*") of the physical space or urban scene ("*object*"), and the evolving meaning attributed by researchers, participants, and later audiences ("*interpretant*"), converge in a continuous feedback loop, allowing the identifications of people's emotional, physical and mental connection to the urban environment ("*psychological responses*"). Through careful application, cameras reveal how intangible factors, such as emotional resonance, cultural symbolism, and singular social imageries, colour how people perceive, interpret, and respond to their urban environments. However, harnessing this potential requires balancing the aim for authentic, real-time data against the ethics of compliance with privacy laws and avoiding researcher bias.

Therefore, in addition to the rich potential of camera-based ethnographic approaches and their associated ethical considerations, using cameras as tools can elicit immediate reactions in participants, such as changing their behaviour, knowing that they are being filmed. The camera's capacity to reveal micro-level urban details can be equally empowering and intrusive, depending on how footage is obtained and shared. Thus, cameras are not passive devices; framing choices, camera angles, and technological constraints inevitably filter reality. *Desirable Cities* acknowledges that these factors embed the researcher's perspective, demanding reflexivity and transparency about how footage is recorded, edited, and presented. Additionally, *Desirable Cities* integrates open-ended interviews and follow-up discussions, allowing researchers to give participants a voice

in interpreting and contextualising recorded scenes, thereby bridging the divide between raw visuals and more reflective narratives. This iterative, collaborative process ensures that the visual data fairly express participants' viewpoints and interpretations.

20.4.2. Cards

Cards such as thematic flashcards or brainstorming cards, have become an increasingly prominent elicitation tool in "*design thinking*" (Dell'Era et al. 2020) and "*user-centred*" in "*service design thinking*" (Stickdorn and Schneider 2016, 21), helping with elicitation (De Souza Filho et al. 2021), game design (Fava et al. 2021), and creative thinking (Tomkin and Watson 2013). These cards can help organise thoughts (Meireles et al. 2021), and facilitate metaphorical thinking (Logler et al. 2018), proving that they can support innovation across different design fields, including urban design. Within *Desirable Cities*, these card-based strategies serve multiple functions: they help stimulate dialogue with participants (*city makers* and *city users*) by presenting easily recognisable visuals about the field of research that participants can sort, rank, and articulate into desirable urban experiences. Such interactions reveal intangible factors such as emotional resonance, personal memories, and symbolic associations (or *Cities' PIDs*) that might otherwise remain hidden in traditional interviews. Each card effectively acts as a mini-sign ("*representamen*"), referencing a particular element of urban life ("*object*") that participants can identify ("interpretant") and respond to (through emotions, actions, and reflections), which aligns with Peirce's *Pragmaticism*. By recording the reactions of these participants, researchers can identify patterns or contrasts among them, thereby highlighting nuances of their urban expectations. Importantly, *Desirable Cities* recommends maintaining flexibility: participants should be able to reinterpret or contribute new meanings to the cards, preventing researchers from prematurely boxing diverse experiences into fixed categories.

Beyond their direct role in data gathering, cards also prompt deeper reflection on how urban settings are understood and experienced. By bridging the gap between abstract ideas (e.g., "community cohesion") and tangible city features (such as a public square or a mural), they foster interactive, participant-led analysis. In essence, a card illustrating people gathering might spark discussions about anything from "touristic disturbances" to "exciting atmosphere", revealing participants' imageries and preferences regarding the urban conditions illustrated in each card. However, researchers face the challenge of ensuring that insights derived from cards are not oversimplified or misread. Documenting

participant discussions in detail, including tone and nonverbal cues, minimises misinterpretation. In addition, *Desirable Cities* underscores the importance of reflexivity: by acknowledging that researchers themselves bring interpretive biases, the methodology remains adaptable and critical. Early pilot tests indicate that this card-based method can spark lively conversations, revealing layers of *cultural* identity, collective memory, and emotional investment that standard surveys may overlook.

Such exercises also align with *Desirable Cities*' broader commitment to collaborative interpretations, where both the researcher and participant co-construct meaning. This participatory element elevates cards from a mere data collection device to future deployments as a relational tool, enabling *city makers* and *city users* to actively express (identify and communicate) their expectations of desirable urban experiences in their city. Thus, the discussions triggered by the cards can lead to a spontaneous group consensus on communal priorities, such as preserving green spaces or celebrating a neighbourhood's unique heritage. By encouraging participants to articulate their perceptions, interpretations, aspirations and responses to the diverse components of the city's spaces, researchers develop a richer dataset that profoundly resonates with the *goals of Desirable Cities*.

20.4.3. Canvas

Within this urban context, canvases, such as the *Business Model Canvas*, are diagrammatic templates that help people structure complex systems graphically. These templates enable people to visualise the essential components of the system, encouraging the integration of knowledge and reflection about the system's operations and purposes by compartmentalising the critical information of each component into a diagrammatic structure that shows the interrelationship and hierarchy of the parts in all their operations. When using the canvases, researchers can attach ethnographic field notes, direct participant quotes or sketches to each entry, preserving emotional tone and contextual nuance within a standardised format (Banaei et al. 2017). This dual-layer approach balances interpretive depth with organisational clarity, promoting cross-comparison among different study sites or participant groups. Thus, canvas also upholds the *interdisciplinary* ethos of *Desirable Cities* by facilitating the integration of perspectives from the different compartments that the diagrammatic template encourages to reflect upon and fulfil. While these structured approaches enhance data manageability, *Desirable Cities* recognises the risk of oversimplifying complex experiences when coding or

labelling is too rigid. As such, the methodology advises researchers to regard templates as a flexible scaffold rather than an inflexible taxonomy, leaving room for emergent or unexpected insights.

Within the empirical testing, *Desirable Cities* uses this canvas to consciously capture participants' perceptions, interpretations, aspirations, and responses to fundamental components of city development, using the measurements identified by *Desirable Cities*. However, the critical application of canvas must be maintained: categories should evolve in response to new field observations, ensuring that they do not eclipse the complexities of urban life. Researchers are encouraged to use qualitative notes, recordings, or reflective memos to contextualise each coded element expressed in the canvas, thereby minimising reductive interpretations. In this sense, the canvas serves not only as an organisational tool for data, but also as a medium for iterative dialogue between the tactical experiences of *city users* and the formal strategic positioning of *city makers*.

Peirce's triadic logic remains visible throughout the research process, with the canvas continually re-evaluating the ongoing interplay between Urban spaces and experiences ("object") through perceptive qualities and standards ("representamen"), and *Cities' PIDs* ("*interpretant*"). Ultimately, these carefully curated frameworks help *Desirable Cities* remain methodologically robust and open to the unpredictable, lived realities that truly define urban environments, from manifested *holistic Cities' PIDs*.

Taken together, the use of templated data-collection strategies, like a canvas, reflects *Desirable Cities*' commitment to systematic and reflexive semiotic inquiry. By aligning the organisational structures semiotically and *holistically,* within an *interdisciplinary* framework, this tool provides city stakeholders with an accessible gateway to engage in visual awareness processes, fostering more genuine communication. The potential for canvas to highlight emerging trends offers a pragmatic dimension, as *city makers* and *city users* can pinpoint potential improvements with greater clarity. Nevertheless, in keeping with the project's emphasis on people's expectations for desirable urban experiences, the canvas must not cut short organic complexity. Flexibility in coding schemes, ongoing re-evaluation, and conscious avoidance of rigid boxes safeguard against reductionism.

Desirable Cities' preliminary studies (particularly the *picture-naire* and *graphic- naire*) have demonstrated that allowing participants to co-create categories yields richer insights, spotlighting the unique singular underpinnings of participants. Consequently, *Desirable Cities*' canvas becomes a channel for communication, bridging subjective narratives

and analytical consistency while celebrating the diversity of urban experience. Through this synergy, *Desirable Cities* ensures that the wealth of visual data from cameras and cards does not vanish into abstract codes but remains intimately connected to the lived realities it represents.

20.5. Articulation of the *Desirable Cities'* empirical application: Operationalising semiotic analysis, ethnography methods, and visual didactical tools for *Desirable Cities*' empirical testing.

Under this urban *Pragmaticism* paradigm, *Desirable Cities* frames empirical work as a way to elicit, organise, and compare how people sense, act in, and reason about urban environments. Semiotic analysis supplies the logic of this inquiry, linking *object* (environment), *representamen* (symbols), and *interpretant* (imaginaries), while ethnographic methods bring lived experience to the focus. Within this frame, visual didactical instruments are conceived as shared representational surfaces where participants can render their understandings visible and negotiable; treating each visual as a model of the city-in-meaning allows *Cities' Phenomenological Images of Desire* (*Cities' PIDs*) to be surfaced as the core analytic unit.

Desirable Cities' core proposition is that conventional, text-centred instruments and aggregate liveability indices struggle to capture tacit, embodied, and often pre- verbal layers of perception and *desire* that shape how spaces are experienced and valued. Accordingly, *desirability* is not treated as a static score produced by data alone but as a dynamic semiotic process co-produced by *city makers* and *city users*. The empirical apparatus is therefore conceived to *mediate* that process, rather than replace it with top-down metrics, so that meanings, expectations, and trade-offs can be articulated and then acted upon. This stance aligns with *Desirable Cities*' wider distinction between the strategies of *city makers* and the tactics of *city users*, and with its aim to make these lenses mutually legible.

Within urban *Pragmaticism*, methods must link *Firstness* (what is sensed), *Secondness* (what is done or encountered in situ), and *Thirdness* (how conduct and concepts are organised). *Desirable Cities*, therefore, envisions two complementary families of instruments. The first is observational capture (like cameras), which records first-person "peaks" and situated "flows" so that raw qualities and interactions are available before interpretation settles. The second is selection-and-structure (like cards and canvas), a constrained but expressive diagrammatic language that externalises

Thirdness by helping participants name actors, contexts, resources, costs, and outcomes of urban developments, and relate *natural*, *cultural*, and *constructural* elements to *emotions*, *actions*, and *ideas*. Together, these instruments map Peirce's triad from *object*, to *representamen*, to *interpretant*, and link those mappings to psychological responses, making *Cities' PIDs* observable and discussable.

In *Desirable Cities*, *didactical* does not mean persuading participants of a theory; it means scaffolding shared learning so that stakeholders can recognise what they are already sensing and doing, name it in a common language, and organise it into propositions that others can interrogate. Didactical visuals lower cognitive load, bridge literacy and language differences, and convert tacit impressions into portable traces; they also create symmetry between *city makers* and *city users* by making both forms of expertise (technical and experiential) visible in the same register. This instructional quality is what turns individual impressions into comparable evidence, enabling reflexive discussion of expectations and trade-offs without collapsing the richness of experience into a single score. In *Desirable Cities*' framework, this emphasis on visual didactical media is precisely what bridges theory and application.

A multimodal protocol follows from this. Visual and verbal evidence are treated as complementary rather than redundant: observational media excel at revealing detailed cognition across peaks, flows, and overviews, while voices and diagrammatic expressions supply temporality, causality, policy, role, and identity. In combination, the record becomes actionable; each medium counterbalances the others' blind spots (e.g., images rarely carry costs or policies; lists miss senses; diagrams risk abstraction without narrative). This coherence across senses and speech satisfies *Pragmaticism's* demand to link perceptions to conduct and conduct to concepts.

The envisaged protocol builds comparison into its structure so that findings are auditable. Roles are paired (*city makers* and *city users*) to keep strategic and tactical perspectives in view; backgrounds are matched to reduce noise; walk-talk sequencing elicits what is seen in context and then examines how it is made sense of afterwards. Triangulation, across observational capture, selection-and-structure choices, and narration, yields comparable traces across participants and roles. A limited, shared vocabulary is required so that triangulated associations can be analysed consistently, and *Cities' PIDs* can be compared without erasing differences. This comparative posture directly addresses *Desirable Cities'* broader aim of brokering understanding between *city makers*' strategies and *city users*' tactics. In *Desirable Cities*' terms, triangulation is

the procedural means by which *Cities' PIDs* become auditable across roles, media and contexts.

Ethical vigilance is assumed throughout. Because images and diagrams can inadvertently perpetuate bias or marginalise groups, procedures for consent, privacy, and fair representation are integral to the method. Within these guardrails, the anticipated advantages are significant: *symbolism*, *imageries*, *emotions*, *actions*, and *reflections*, often concealed by purely textual or statistical analyses, become available for examination and negotiation as part of a shared, didactically supported inquiry. The specific instruments, tools, and protocols drawn for this criterion and the rationale for application are explained in the subsequent methodology section.

FRENCH SUMMARY OF PART FIVE

MÉTHODOLOGIE DE TEST DE *VILLES DÉSIRABLES*

21. INTRODUCTION A LA MÉTHODOLOGIE POUR LES TESTS EMPIRIQUES

La méthodologie développée valide les outils de *Villes Désirables* visant à améliorer la capacité des participants à identifier et à communiquer leurs attentes en matière d'expériences urbaines désirables, l'objectif central étant d'évaluer l'efficacité des outils plutôt que d'étudier les conditions urbaines de Xintiandi. Suivant le paradigme du *pragmaticisme* de Peirce (1933,1960) et ses inférences logiques triadiques — « *abduction* », « *induction* » et « *déduction* » — *Villes Désirables* fonctionne comme une science appliquée recueillant des données empiriques à travers des outils visuels didactiques au sein de protocoles ethnographiques itératifs, puis analysant sémiotiquement la performance des outils et les données collectées pour affiner la théorie et la pratique.

La justification de la méthodologie découle de la démonstration que ces outils peuvent avoir un impact significatif sur la manière dont les individus articulent leurs attentes en matière d'*expériences urbaines désirables*, satisfaisant ainsi de manière *holistique* l'équilibre écologique de la Terre, le bien-être social et l'épanouissement des espaces urbains à travers une approche itérative où l'« *abduction* » génère des hypothèses initiales et conçoit des outils innovants ; l'« *induction* » recueille des données par l'observation de terrain en distinguant un *groupe témoin* d'un *groupe outils* pour une analyse comparative ; et la « *déduction* » structure la manière dont les résultats correspondent au cadre théorique pour affiner les pistes futures, en se concentrant sur une expérience comparative, basée sur la conception, avec un échantillon intentionnellement limité visant une comparaison nuancée et approfondie à travers des entretiens-parcours-pédestres et des entretiens-discussion-outils systématiquement orchestrés.

Cadre de recherche et participants

Xintiandi a été sélectionné comme site de recherche de terrain en tenant compte des avantages de Shanghai en tant que laboratoire urbain mondial, avec régénération de ses *Lilong* de style *Shikumen* et son complexe contemporain à usage mixte offrant

des cadres variés pour tester les interactions avec les composantes *naturelle*, *culturelle* et *construite*. Quatre participants, comprenant deux *créateurs de villes* (architectes) et deux *utilisateurs de la ville* (visiteurs locaux réguliers), sont répartis équitablement entre le groupe outils et le groupe témoin. Ils ont été sélectionnés au sein du réseau de *Villes Désirables*, sont âgés de 35 à 55 ans et possèdent des profils similaires pour garantir une comparaison directe.

Questionnaire-holistique et outils de recherche

Un *Questionnaire-holistique* structuré établit une base de référence comparative à travers quatorze phases pour les *créateurs de villes* et neuf pour les *utilisateurs de la ville*, avec des questions intentionnellement neutres sondant les environnements *naturel*, *culturel*, *construit* et les *émotions*, *actions*, *réflexions* correspondantes, garantissant que les différences observées puissent être attribuées à l'efficacité des outils. Les outils de *Villes Désirables* comprennent : trois systèmes de caméras (*Ca(p)mera* capturant la perspective à la première personne, *Following>Camera* documentant les interactions contextuelles à la troisième personne, *FloatingvCamera* enregistrant la manipulation des outils en vue de dessus) ; les *Emotion-naire Cards*, un jeu de 91 cartes illustrées représentant les composants de Xintiandi, organisées en catégories environnementales, d'orientation, sociales et fonctionnelles ; le *Structure-naire Canvas*, un outil schématique pliable en deux parties avec neuf étapes pour les *créateurs de villes* explorant les objectifs professionnels et cinq pour les *utilisateurs de la ville* axées sur les perceptions expérientielles ; et le *Terms-naire Tray*, fournissant des termes sélectionnables lorsque l'articulation verbale s'avère difficile.

Collecte, analyse des données et rigueur méthodologique

La collecte de données combine l'ethnographie urbaine immersive et la capture visuelle multi-perspectives à travers quatre modalités : les données audiovisuelles des caméras capturant les rencontres phénoménologiques ; les données verbales et écrites des réponses au questionnaire et des entrées sur le canevas ; les données matérielles interactives issues des arrangements de cartes révélant des connaissances tacites ; et les données d'observation issues des notes de terrain ethnographiques et du journal réflexif.

L'analyse suit le cycle d'enquête peircien à travers une analyse thématique réflexive des données verbales/d'observation et une analyse sémiotique décodant les significations visuelles/matérielles, avec des mesures clés évaluant la richesse thématique ; l'intégration *holistique* reliant les dimensions environnementales ; l'articulation du désir ; l'efficacité communicative ; et la performance des outils. La rigueur méthodologique suit un cadre de fiabilité (*trustworthiness*) englobant la crédibilité par de multiples formes de triangulation (des données, des méthodes, des chercheurs, des personnes) ; la transférabilité par la description dense (*thick description*) ; la fiabilité (*dependability*) via des protocoles transparents créant des pistes d'audit ; et la confirmabilité par le journal réflexif, tandis qu'un cadre éthique assure le consentement éclairé, l'anonymat et la confidentialité, avec des images présentées à une échelle préservant la vie privée des individus en arrière-plan.

Limites et conclusions

L'étude assume la subjectivité qualitative, gérée par la réflexivité, tout en reconnaissant qu'un échantillon restreint et intentionnel permet une analyse approfondie mais limite la généralisabilité statistique, l'objectif étant la transférabilité de la méthodologie plutôt que des résultats spécifiques, et en acceptant les limitations technologiques inhérentes des outils prototypes comme faisant partie d'un processus de conception itératif.

La méthodologie allie intentionnellement la rigueur théorique à une application pratique sur le terrain. Elle synthétise la sémiotique de Peirce, l'anthropologie et le design urbain dans une approche multi-méthodes qui examine comment les individus habitent, interprètent et envisagent les espaces urbains à travers une synergie innovante d'outils visuels et de protocoles ethnographiques, ouvrant la voie à un développement urbain plus inclusif, réactif, *holistique* et *interdisciplinaire*, et offrant ainsi une voie pratique pour combler les fossés entre les intentions des créateurs et les réalités des utilisateurs.

PART FIVE.

DESIRABLE CITIES' TESTING METHODOLOGY

22. *DESIRABLE CITIES*' METHODOLOGY FOR THE EMPIRICAL TESTING

22.1. Overview of the methodology for the empirical testing

22.1.1. Introduction to *Desirable Cities*' testing methodology

This methodology is employed to validate *Desirable Cities*' set of tools aimed at enhancing the ability of participants to identify and communicate their expectations for desirable urban experiences. The central objective of this research is not to study the urban conditions or governance structure of the selected field of research (Xintiandi), but to assess the effectiveness of these tools as a conceptual and practical framework. It addresses the interplay between *city makers* and *city users* examining how their *emotions*, *actions* and *reflections* (this last one addressed within the tools as *ideas* for easier comprehension) converge or diverge in the experiences of the selected public spaces.

In line with Peirce's *Pragmaticism* paradigm and his triadic logical inferences: "*abduction*", "*induction*", and "*deduction*" (McNabb 2018, 90), *Desirable Cities* is an applied science. It gathers empirical data through didactical visual tools, within iterative ethnographic protocols, to then semiotically analyse their performance and collected data, for refining theory and practice. Thus, this methodology bridges philosophical concepts with practical urban fieldwork, ensuring that *Pragmaticism*'s "*abduction*", "*induction*", and "*deduction*" guide data collection, tool refinement, and final conclusions and recommendations (Misak 2013, 47–50; Peirce 1988, 226–41). This approach recognises tangible constraints (e.g., space structures, resource limits) yet remains open to unexpected emotional and cultural dimensions. By applying an urban *Pragmaticism* as paradigm, with a semiotics analysis conducted about participants' environmental perception (through symbolism), and their interpretations (through imageries) together with their consequential psychological responses (emotions, actions and reflections), to identify their urban desirability (urban mimetic aspirations); through anthropological-ethnographic protocols and didactical visual tools, the methodology respects real-world complexity while maintaining academic rigour (Peirce 1988, 4–10; 1988, 272–73).

22.1.2. Rationale and approach of the testing methodology

The rationale behind this approach is rooted in the need to demonstrate, in a controlled yet contextually rich environment, that *Desirable Cities'* proposed tools can meaningfully impact the way people articulate (identify and communicate) their expectations for desirable urban experiences, and therefore help *holistically* balance Earth's ecological systems, social well-being, and thriving urban spaces. While a theoretical framework often remains conceptual, *Desirable Cities* aims for real-world corroboration (Brown 1992, 141–47; The Design-Based Research Collective 2003, 5– 6). Testing each tool in situ allows *Desirable Cities* to check whether participants genuinely broaden their awareness and express their expectations for desirable urban experiences. This is achieved by contrasting the visual and verbal data, where urban symbolism (environmental perceptions) triggers people's imaginaries of their urban spaces (environmental interpretations), from which people's psychological responses emerge in the form of feelings, actions, and reflections linked to desirability by identifying the social sources from which these psychological responses are mimetically expected to be experienced (Peirce 1988, 4–10). Without this field-based validation, the synergy of the *interdisciplinary* approach of *Desirable Cities*, articulating ecology, geography, biology, sociology, psychology, anthropology, ethnography, semiotics, communication and economy with urban studies and city development might remain abstract (The Design-Based Research Collective 2003, 5–6).

The research approach is iterative, mirroring Peirce's logical cycle (Misak 2013, 47–50; Peirce 1988, 226–41). "*Abduction*", generating initial hypotheses (articulated theoretical framework) and designing innovative tools (e.g., *Ca(p)mera*, *Emotion-naire Cards*, and *Structure-naire Canvas*) (Peirce 1988, 226–30). "*Induction*", gathering data through field observation and participant responses, then revising or confirming hypotheses about urban desirability (e.g., distinguishing participants' *control group* vs. *tools group*, which allows the comparison analysis of the tools performance) (Peirce 1988, 231–35). "*Deduction*", structuring how these tools' results match or distance from theoretical framework and empirical testing to refine the ways forward. (e.g. the tagging system proposal in *Desirable Cities*' conclusions) (Peirce 1988, 235–41). By combining these three forms of reasoning, the methodology functions as applying science, testing and refining theoretical constructs like urban *Pragmaticism* and units of measurements like *Cities' PIDs*, in its direct relationship with practical applications (the propose customised elicit tools prototypes) (Misak 2013, 47–50).

Rather than conducting a large-scale survey or statistical analysis, this research

focuses on a comparative, design-based experiment that allows for a deep, qualitative understanding of tools performance from individual responses. The limited sample size is intentional. By focusing on a small number of strategically chosen participants (two *city makers* and two *city users*), the study seeks to provide an in-depth, nuanced comparison that demonstrates the tools' potential. This experimental design supports the argument for the proof-of-concept stage of the tool's development, rather than generalising across populations (Yin 2018, 17–18). Although the methodology is predominantly qualitative, the approach is systematically orchestrated during the walk- tour-interviews, and talk-tool-interviews; ensuring multi-dimensional data collection in video, audio, writing, drawing and tools manipulations (Tashakkori and Teddlie 2010, 20). This protocol order is essential to avoid influencing the participant responses, as the walk-tour-interviews named *Stately-Walk* (for *city makers*) and *Chatty-Walk* (for *city users*), allow to extract raw visual and verbal data of what the participants are able to articulate about the field of research on their own. Then, the talk-tool-interviews, named *Insightful-Talk* (for *city makers*) and *Playful-Talk* (for *city users*) provide structural mechanism from the theoretical framework, from which participants could address deeper perceptions (*symbols*), interpretations (*imageries*) and psychological responses (*feelings*, *actions* and *ideas*) of their environment (*natural*, *cultural*, and *built*), from which this research can identify urban desirability in the form of aspirations (*expectations of feelings*, *expectations of activities*, and *expectations of meanings)*, from their urban experiences. The result is a hybrid method: open enough to capture subjective, emotional data, yet defined by structured measurements that enable consistent comparisons (Brown 1992, 146–51; The Design-Based Research Collective 2003, 5–6).

22.1.3. Research design of the testing methodology

In the first phase, initial explorations are conducted by the *Stately-Walk* and *Chatty-Walk* using open-ended questions at the open-air spaces of the selected public space. For the *tools group,* only the camera is used to collect raw impressions (recording video and audio) and emergent themes in participants' *emotions*, *actions*, and *ideas*. In the second phase, structured explorations are conducted by the *Insightful-Talk* and *Playful-Talk* with structured questions (provided by a *Holistic- Questionnaire*), in an indoor space selected within the same field of research. For the tools group, the complete set of tools (cameras, cards, and canvas) is tested. For the control group, no visual tools are introduced at any point. In the third phase, the thematic and triangulation analysis takes place (Braun and

Clarke 2006, 87–93; Yin 2018, 196–97), comparing: (A) the *control group*'s answers vs. the *tools group*'s answers; (B) each participant's open-question answers vs. the structured-question answers; (C) the *tools group* participant's image data vs. language data; and (D) each *city makers*' feedback about *city users* vs. *city users*' feedback about *city makers*. These triangulations and comparison analysis feeds the cross-referencing inductive process, collectively interpreted and contrasted with theory.

Therefore, participants are split into two groups from the theoretical framework: *city makers* and *city users*; and these are subdivided again to evaluate tool efficacy: *tools group* and *control group*. The *control group* responds to the same questions but without the tools. By comparing outcomes between these groups' answers, the design systematically tests whether *Desirable Cities*' tools help the participants to identify and communicate their expectations about their desirable urban experiences, by allowing them to articulate, in their own way, how the *natural*, *cultural* and *built* components of the field of research are triggering or satisfying their personal *expectations of feelings*, *expectations of activities*, and *expectations of meanings*, from their urban experiences within the field of research. As the theoretical framework suggests, this structural articulation between the environment's *natural*, *cultural*, and *built* components and the individuals' expectations of *feelings*, *activities*, and *meanings* is fundamental to identifying and communicating expectations of desirable urban experiences among city stakeholders. Such structured contrasts address potential biases and establish precise cause-and-effect relationships regarding the tools' effectiveness.

22.2. Empirical testing's field of research

Xintiandi was selected as the field of research for the tools testing, considering the benefits of Shanghai as a global urban laboratory, identified on the *Desirable Cities' Grounding*, and the fact that Xintiandi was also selected in all of the fifth preliminary studies conducted by *Desirable Cities* (*Shanghai Mapping*, *Question-naire*, *Picture-naire*, *Photo-naire*, *Graphic-naire*), which allows to showcase the evolution of *Desirable Cities*' tools developments and prototypes over four years within the same urban setting. Xintiandi's open-air public spaces offer a diverse and rich setting for testing participant's interactions with all the environmental components highlighted by *Desirable Cities*' theoretical framework, like *natural*, *cultural*, *constructural*, people's activities, "*paths*", "*edges*", "*nodes*", and "*landmarks*", including *Shikumen*-style Lilong regeneration with contemporary museums, retail outlets, leisure, offices, hotels, and urban park compounds,

making it a benchmark case for adaptive urban developments. It is estimated that Xintiandi success attracts about 15 million visitors a year and has pushed nearby commercial and residential prices to some of Shanghai's highest levels, giving researchers rich, real-time data on foot-traffic patterns, gentrification and value capture, of a popular and *desirable* spot within the city.

However, it is very important to highlight that the site itself is not the object of inquiry, as the purpose of the empirical testing is the performance of the proposal tools. This thesis does not evaluate Xintiandi's performance; all site mentions serve only to assess tool performance. However, Xintiandi undeniably offers a suitable backdrop that allows participants to engage with real-world challenges and aspirations. Additionally, the familiarity and complexity of this urban environment allow the tools to be tested under conditions that reflect actual urban engagement.

22.3. Empirical testing's participants

The research involves four participants, who were addressed with a code that continued the codes used in the preliminary studies (*P01-P90*). These participants were split into two primary roles (*city makers* and *city users*), and subdivided into a tools group and a *control group*:

- *Participant 91* (*P91*) *city maker* (with tools)
- *Participant 92* (*P92*) *city maker* (without tools – *control group*)
- *Participant 93* (*P93*) *city user* (with tools)
- *Participant 94* (*P94*) *city user* (without tools – *control group*)

This structure allows for direct comparison within each role (*city makers* and *city users*). The participants will be selected from *Desirable Cities*' network, based on their relevance, availability, and willingness to engage deeply with the study. However, they must not be familiar with the proposal tools before the testing. To ensure relevant expertise and experiences, participants will be between 35–55 years old. Considering the diverse internal subcategories of *city makers* and *city users*, and aiming for a direct comparison analysis, only architects will be selected to represent *city makers*, and only local regular visitors of Xintiandi will be selected to represent *city users*; and the background and age of the *tools group* must match their counterparts in the *control group*.

A deliberate choice was made to limit the number of participants to four. This enables

close observation, repeated engagement, and in-depth qualitative analysis. The purpose is to investigate the mechanisms and degrees of performance in which the tools help, or not (in comparison with the *control group*), the participant's identification and communication of the *natural*, *cultural*, and *built* components of the environment, and how these trigger in them feelings, actions and emotions, which are directly linked to how the urban *symbols* and *imageries* influencing the individuals' expectations of *feelings*, *activities*, and *meanings* , or in other words their expectations for a desirable urban experience within the field of research. Thus, this testing does not investigate generalisable results related to the field of research (Xintiandi) or the diverse categorisations of city stakeholders (*city makers* and *city users*). Small-n case study research, particularly in the context of experimental design research, enables controlled variation and provides rich insights. It is aligned with traditions of critical design, participatory design, and design anthropology, which often prioritise depth over breadth.

22.4. Empirical testing's *Holistic-Questionnaire* (testing instrument)

To establish a comparative variable between the participants' *tool group* and the *control group*, a structured *Holistic-Questionnaire* is introduced in the methodology as an instrument of comparison to evaluate the tools' performance. This questionnaire, applied to all participants, enables direct comparison between the answers of participants who use the tools and those who do not have access to them. Each participant will be presented with the following questions, tailored to their specific role (*city makers* and *city users*). The questions are intentionally crafted to be neutral, probing the core themes of the research's *holistic* framework, such as the interplay between *natural*, *cultural*, and *constructural* environments, and the participant's corresponding *emotions*, *actions*, and *reflections*. Their design does not intend to lead participants or artificially favour the *tools group*. Instead, the questionnaire serves as a standardised baseline instrument, ensuring that any observed differences in the richness or depth of responses between the *tools group* and the *control group* can be attributed to the tools' effectiveness, rather than to the framing of the questions. This methodological rigour is essential for an unbiased evaluation of whether the tools genuinely enhance the identification and communication of desirable urban experiences, which is the central hypothesis of this empirical test.

22.4.1. Questions for *city makers* walks (Stately-Walk)

(before the walk)

Holistic-Questionnaire phase one:

- QCM-W-01) How often do you come to Xintiandi?

- QCM-W-02) Please share with me your connection with Xintiandi.

- QCM-W-03) As an architect, what do you think was the original purpose of Xintiandi?

- QCM-W-04) And what do you think users think about Xintiandi? (at the start of the walk)

Holistic-Questionnaire phase two:

- QCM-W-05) As we walk through this place, please share with me your thoughts on Xintiandi's space elements.

(after the walk)

Holistic-Questionnaire phase three:

- QCM-W-06) What are your favourite parts of Xintiandi? Why?

- QCM-W-07) What was your favourite experience ever in Xintiandi? Why?

22.4.2. Questions for *city makers*' talks (Insightful-Talk)

Holistic-Questionnaire phase four:

- QCM-T-01) How will you organise the different elements composing the entire Xintiandi? Why?

- QCM-T-02) Which of all these elements are your favourites? Please describe a desirable ideal experience you would like to have here.

Holistic-Questionnaire phase five:

- QCM-T-03) Could you please describe yourself as an architect?

- QCM-T-04) Could you please describe Xintiandi's public space?

- QCM-T-05) Could you please explain how you know about Xintiandi?

- QCM-T-06) Could you please talk about your experiences in Xintiandi, professionally?

- QCM-T-07) Could you please explain your relationship with Xintiandi?

- QCM-T-08) Could you please talk about your context in relation to being an architect?

- QCM-T-09) Could you please talk about the context of Xintiandi?

- QCM-T-10) Could you please talk about the context of your relationship with Xintiandi?

Holistic-Questionnaire phase six:

- QCM-T-11) Could you please identify the *natural*, *cultural*, and *built* elements of Xintiandi's public spaces?

- QCM-T-12) Could you please tell me how these *natural*, cultural, and *built* elements of Xintiandi influence your emotions, actions, and ideas?

Holistic-Questionnaire phase seven:

- QCM-T-13) Could you please extend your thoughts about the contextual references related to you, Xintiandi, and the relationship with Xintiandi from a *natural*, *cultural*, and material point of view?

Holistic-Questionnaire phase eight:

- QCM-T-14) City spaces are developed by policymakers, real estate developers, designers, and builders. Based on your professional experiences, please talk about each of these groups.

- QCM-T-15) What do you think were the original objectives and final outcomes for each of these four professional groups?

Holistic-Questionnaire phase nine:

- QCM-T-16) What do you think were the *natural*, *cultural*, and material resources and tools these policymakers, real estate developers, designers, and builders utilised to develop Xintiandi?

Holistic-Questionnaire phase ten:

- QCM-T-17) Based on their original objectives, final outcomes, resources and tools, what do you think were the ecological, cultural, and material costs for policymakers, real estate developers, designers, and builders to develop Xintiandi?

Holistic-Questionnaire phase eleven:

- QCM-T-18) What do you think were the ecological, cultural, and material costs for understanding the policymakers, real estate developers, designers, and builders within the context of Xintiandi?

- QCM-T-19) What do you think were the ecological, cultural, and material costs for training the policymakers, real estate developers, designers, and builders within the context of Xintiandi?

- QCM-T-20) What do you think were the ecological, *cultural*, and material costs of developing Xintiandi?

Holistic-Questionnaire phase twelve:

- QCM-T-21) What do you think were the ecological, *cultural*, and material costs of Xintiandi's maintenance?

- QCM-T-22) What do you think were the ecological, *cultural*, and material costs for communicating with Xintiandi's residents, commuters, and visitors?

- QCM-T-23) What do you think were the ecological, *cultural*, and material costs of understanding Xintiandi's residents, commuters, and visitors?

Holistic-Questionnaire phase thirteen:

- QCM-T-24) Xintiandi is used by residents, commuters, and visitors. Could you please tell me what you think their expectations of Xintiandi are from a *natural*, social, and material point of view? And how do you deal with this kind of expectation as an Architect?

Holistic-Questionnaire phase fourteen:

- QCM-T-25) Is there anything else you want to add about Xintiandi?

22.4.3. Questions for *city users*' walks (*Chatty-Walk*)

(before the walk)

Holistic-Questionnaire phase one:

- QCU-W-01) How often do you come to Xintiandi?

- QCU-W-02) Please share with me your connection with Xintiandi.

Holistic-Questionnaire phase two:

- QCU-W-03) As a user, what do you think was the original purpose of Xintiandi?

- QCU-W-04) And what do you think architects think about Xintiandi?

(at the start of the walk)

Holistic-Questionnaire phase three:

- QCU-W-05) As we walk through this place, please share with me your thoughts on Xintiandi's space elements.

(after the walk)

Holistic-Questionnaire phase four:

- QCU-W-06) What are your favourite parts of Xintiandi? Why?

- QCU-W-07) What was your favourite experience ever in Xintiandi? Why?

22.4.4. Questions for *city users*' talks (*Playful-Talk*)

Holistic-Questionnaire phase five:

- QCU-T-01) How will you organise the different elements composing the entire Xintiandi? Why?

- QCU-T-02) Which of all these elements are your favourites? Please describe a desirable -ideal- experience you would like to have here.

Holistic-Questionnaire phase six:

- QCU-T-03) Could you please describe yourself as a user?

- QCU-T-04) Could you please describe Xintiandi's public space?

- QCU-T-05) Could you please explain how you know about Xintiandi?

- QCU-T-06) Could you please talk about your experiences in Xintiandi?

- QCU-T-07) Could you please explain your relationship with Xintiandi?

- QCU-T-08) Could you please talk about your context as a user?

- QCU-T-09) Could you please talk about the context of Xintiandi?

- QCU-T-10) Could you please talk about the context of your relationship with Xintiandi?

Holistic-Questionnaire phase seven:

- QCU-T-11) Could you please identify the *natural*, *cultural*, and *built* elements of Xintiandi's public spaces?

- QCU-T-12) Could you please tell me how these *natural*, *cultural*, and *built* elements of Xintiandi influence your emotions, actions, and ideas?

Holistic-Questionnaire phase eight:

- QCU-T-13) Could you please extend your thoughts about the contextual references related to you, Xintiandi, and your relationship with Xintiandi from a *natural*, cultural, and material point of view?

Holistic-Questionnaire phase nine:

- QCU-T-14) City spaces are used by residents, commuters, and visitors. Based on your experience, please talk about each of these groups.

- QCU-T-15) What do you think are the space information and experience expectations that each of these user groups has about Xintiandi?

(*city users* do not need to answer the technical questions between phase ten and thirteen)

Holistic-Questionnaire phase fourteen:

- QCU-T-16) Xintiandi was developed by authorities, investors, and designers. Could you please tell me what you think their objective was for Xintiandi from a *natural*, social, and material point of view? And how do you deal with this kind of proposal as a user?

- QCU-T-17) Is there anything else you want to add about Xintiandi?

Participants using the tools will receive support in how to operate the tools, but not in their responses to the questions to avoid any influence on the results, which are carefully planned in the next section *protocols for conducting the Holistic-Questionnaire*.

22.5. Empirical testing's research tools

22.5.1. *Desirable Cities*' tools testing

Desirable Cities' theoretical framework emphasises that the sources of city stakeholders' expectations for desirable urban experiences are liked to people's environmental perceptions through *symbolism*, its interpretations through *imageries,* and their aspirations through *expectations of feelings*, expectations *of activities*, and

expectations of meanings. Collectively these perceptions, interpretations and aspirations affect people's psychological responses: *emotions*, *actions* and *reflections* (*reflections* addressed within the tools as *ideas*), towards their environment's *natural*, *cultural*, and *constructural* components. *Desirable Cities* introduces the concept of *cities' Phenomenological* (through the urban experience) *Imageries* (imaginaries) *of Desire* (wishes), as the *imageries* that reveal what individuals wish to experience in the city. *Desirable Cities'* tools (cameras, cards and canvas) are grounded in this theoretical framework and designed to extract these *Cities' PIDs*. The tools are intended to help participants to:

- Reflect on their wishes, aspirations and values related to urban experiences.
- Translate their abstract aspirations into actionable insights of expectations.
- Communicate these expectations clearly.

There are three camera tools: *Ca(p)mera*, *Following>Camera*, and *FloatingvCamera*. One cards tool: *Emotion-naire Cards*. And one canvas tool: *Structure-naire Canvas*, which has a support device named *Terms-naire Tray*. These tools are combined to create a guided but open-ended engagement experience with the participants.

22.5.2. *Ca(p)mera*

Informed by *Desirable Cities*' *Picture-naire* at the preliminary studies, The *Ca(p)mera* is a discreet, wearable tool that blends unobtrusive observation with dynamic real-world interaction. It consists of a compact camera mounted on a cap, designed to capture the participant's visual field when experiencing the city. Applied during the *Stately-Walk* and *Chatty-Walk*, this tool matches the spirit of the open questions inquiries of the *Holistic-Questionnaire* between phases one and four. The location of the small camera on top of the visor of the cap impedes the participants from seeing it, which helps preserve the spontaneity of participant behaviour, a core value in ethnographic research. See *Image 134*: *Ca(p)mera*. This enables researchers to observe the participant's gaze, effectively recording what they look at, how long they observe it, and what draws their attention, providing key insights into the participant's lived experience of urban space. This method aligns with immersive ethnography and urban anthropology, which advocate for participant-centred, in-situ methods that preserve natural behaviour (Pink 2015, 122–26). The tool supports *Desirable Cities'* broader aim of capturing genuine, unscripted urban experiences.

The camera's technical specifications include anti-shock stabilisation to absorb the jolts of walking, and synchronised audio recording via a discreet microphone, to ensure smooth, high-quality audiovisual data. This setup enables the full integration of visual stimuli with real-time participant commentary, thereby facilitating a robust audiovisual narrative for post-walk analysis. The recording of synchronised visual and verbal data reinforces sensory ethnography's multidimensional approach (Bates 2015). This aligns with the importance of applying visual methodologies and leveraging digital tools to capture and analyse the complexity of people's interactions with their environments (Emmison et al. 2012, 1–6; Horst and Miller 2012).



Image 134. *Ca(p)mera.*

22.5.3. *Following>Camera*

The *Following>Camera* is a researcher-operated recording camera tool designed to document the real-time and contextual interactions between people and their environment. Applied during the *Stately-Walk* and *Chatty-Walk* experiences, also aligns with the inquires between the phases one and four of the *Holistic-Questionnaire*. Unlike the *Ca(p)mera*, which captures the participant's direct field of view, the *Following>Camera* is handled by a member of the research team, maintaining a discreet distance behind the participant to preserve the natural flow of movement and dialogue without interference. This method captures third-person observational data, enabling the documentation of nonverbal cues, spatial dynamics, and body language related to the urban context. It aligns with the ethnographic tradition of *fly-on-the-wall* documentation (Heath et al. 2011,

38–40; Kaczmarek 2020; Pink 2004, 168–69), offering a complementary perspective to first-person recordings and enhancing the multi-perspectival richness of the dataset.

Technically, the camera is equipped with a wide-angle lens to maximize spatial coverage and anti-shock systems to ensure stability during the following process. Synchronised audio is recorded to focus on the participant's remarks, maintaining alignment between spoken narratives and visual context. This setup contributes to a cohesive audiovisual archive for later analysis, documenting how participants move through and engage with urban environments while also preserving the interactional space between interviewer and participant. The third-person visual data complements the embodied, sensory perspective captured by the Ca(p)mera, facilitating triangulation of insights across devices. Moreover, this tool enhances transparency in ethnographic documentation, allowing researchers later to review their interactions and presence in the field, thereby reducing bias and reflecting on the influence of the researcher (Emmison et al. 2012, 33–36). See *Image 135*: *Following>Camera wear by the research team*.



Image 135. *Following>Camera wear by the research team.*

22.5.4. *FloatingvCamera*

The *FloatingvCamera* is a fixed-position recording camera designed to capture the participant's interactions with the other tools (cards and canvas) during the *Insightful-Talk* and *Playful-Talk* interviews. Positioned discreetly above the interview table, it offers an unobstructed aerial view of the participant's manipulation of the other tools (*Emotion-naire Cards* and the *Structure-naire Canvas*). This static overhead angle enables researchers to document the dynamics of tool use, including gestures, card selections, canvas inputs, hand movements, and other non-verbal cues. This approach aligns with the "*fixed camera*" technique in ethnographic video research (Heath et al. 2011, 40–46). It allows for detailed, uninterrupted capture of embodied engagement, particularly relevant when analysing tactile, visual, and cognitive responses evoked by didactic tools (Jewitt 2013).



Image 136. *FloatingvCamera.*

Technically, the *FloatingvCamera* uses a high-definition fixed-focus lens directed at the tabletop to ensure consistent image clarity, without the autofocus distractions. It is paired with synchronised audio recording, capturing the verbal dialogue between the interviewer and participant. This configuration ensures accurate alignment between spoken content and physical tool interaction, facilitating a cohesive audiovisual record. The *FloatingvCamera* adds a critical layer to *Desirable Cities'* multimodal methodology. By providing close-range observational data on how participants physically engage with the *Emotion-naire Cards* and *Structure-naire Canvas*, researchers can revisit precise sequences of card selection and canvas input, generating empirical evidence of interaction patterns, hesitations, repetitions, or preferences. Such insights into behavioural subtleties enrich the qualitative analysis of participant reflections and strengthen the methodological rigour of the study (Knoblauch et al. 2008). See *Image 136*: *FloatingvCamera*.

22.5.5. *Emotion-naire Cards*



Image 137. *Emotion-naire Cards.*

Based on the results obtained by *Desirable Cities*' preliminary studies, including the *Photo-naire*, *Picture-naire*, and *Graphic-naire*, people have difficulties visualising the macro-level components and conditions of urban space, especially when they are

relying only on their memory. The *Emotion-naire Cards* are a custom-designed set of 91 illustrated cards created to facilitate the presentation and visualisation of that macro-view of the selected field of research. Each card represents one specific component or condition of Xintiandi. These illustrations were developed from photographs taken on site, preserving key aesthetic qualities of each picture such as colours and shapes while simplifying and isolating each element from its surroundings, to enhance recognizability and communicative clarity. See *Image 137*: *Emotion-naire Cards*. The use of such visual prompts aligns with ethnographic practices that employ graphic elicitation techniques to access tacit knowledge and facilitate participant expression (Prosser and Loxley 2008). This alignment between the physical setting and the visual prompt aids in memory recall and encourages participants to reflect on their subjective experiences in a grounded and emotionally resonant manner (Banks 2001, 146; 2009, 50–52).

During the *Insightful-Talk* and *Playful-Talk* interviews, the phase five of the *Holistic-Questionnaire* required the participants to address this macro-level view of the field of research (Xintiandi). When participants face this challenge, the tool group will receive the *Emotion-naire Cards* and will be invited to use it explore, arrange, and rearrange the different components and possible conditions of Xintiandi, to facilitate answering the questions of the fifth phase. By doing so, the cards can also reveal the participants' spatial metaphors helping them to identify and express their perceptions, interpretations, and aspirations of Xintiandi. This form of visual narrative construction supports projective engagement and more profound meaning-making (Bagnoli 2009). By engaging participants in a tactile and interpretive task, the *Emotion-naire Cards* offer a structured yet open-ended platform to elicit complex urban imaginaries and their personal *Cities' PIDs*.

The components illustrated on the cards are structured using *Desirable Cities*' theoretical framework and preliminary research. They are organised into four main analytical categories: (1) elements of the *natural*, *cultural*, and *built* environment; (2) orientation elements such as *paths*, *edges*, *nodes*, and *landmarks*; (3) social behaviours and urban performances such as *sitting*, *smoking*, *taking selfies*, etc.; and (4) functional typologies such as transportation modes (*bus*, *taxi*, *bicycle*, etc), object types (*food*, *beverages*, *clothing*, etc.), and building functions (*hotel*, *restaurants*, *shops*, etc); all based on *Desirable Cities*' prior mappings and classifications. See *Image 087* on page 157. Each card is encoded on the reverse side with visual patterns corresponding to its categorical framework. These markers, which are concealed from participants, enable the research team to trace theoretical affiliations while preserving the spontaneous and

ludic nature of participant responses. Where elements span multiple categories (e.g., a high-rise hotel can simultaneously be a built environment, a landmark, and a hospitality function building), a single card contains the illustration with multiple pattern indicators at the back.

Technically, the cards are printed on 9cm x 5cm matte-coated eco-friendly paper, with a durable 170–200 gsm weight to ensure both tactile quality and environmental responsibility. The matte finish reduces glare and allows for easy visualisation and potential annotation. Their size and design are inspired by table card games to evoke a "*playful*" and accessible tone, reducing participant inhibition and supporting engagement in a semi-structured yet creative way (Gauntlett 2015, 11). The card interactions are documented via the *FloatingvCamera* for subsequent analysis. Researchers will examine the combination of card selections, participant explanations, and the physical manner of interaction, interpreting these through a semiotic lens. See *Image 081* and *Image 082* on pages 148-149.

22.5.6. *Structure-naire Canvas*

The *Structure-naire Canvas* is a dual-part, foldable diagrammatic tool designed to facilitate participants' in-depth reflection about their urban environment within a structural layout, allowing them to add nuances about the relationship with a specific space in the city (the field of research). The support this tool provides in articulating thoughts can facilitate answering the questions between phases six and fourteen of the *Holistic-Questionnaire*. Therefore, it is applied during the *Insightful-Talk* and *Playful-Talk* interviews, enabling participants to express their perceptions, interpretations, and aspirations concerning Xintiandi, as well as expressing their ideas about the *city makers* and *city users*. Each half of the canvas is tailored for both types of participants' roles (*city maker* or *city user*), thereby enabling a visual and semantic mapping of their urban thoughts related to their experiences and expectations from that role.

The canvas is printed in A1 format (59.4 × 84.1 cm), cut into the *city maker*'s and *city user*'s parts and folded into an A5 booklet (14.8 × 21.0 cm) to guide participants through the reflection process progressively. Each stage of the interview will be addressed by one of the A5 sections of the canvas. This staged unfolding is intended to reduce cognitive overload, allowing the interview to begin with broad, familiar topics and gradually explore more profound and more complex urban dynamics. This method aligns with design practices in participatory research that favour "*sessions*" of elicitation and reflective

sequencing (Sanders and Stappers 2012, 159–60). See *Image 138*: *Structure-naire Canvas*.

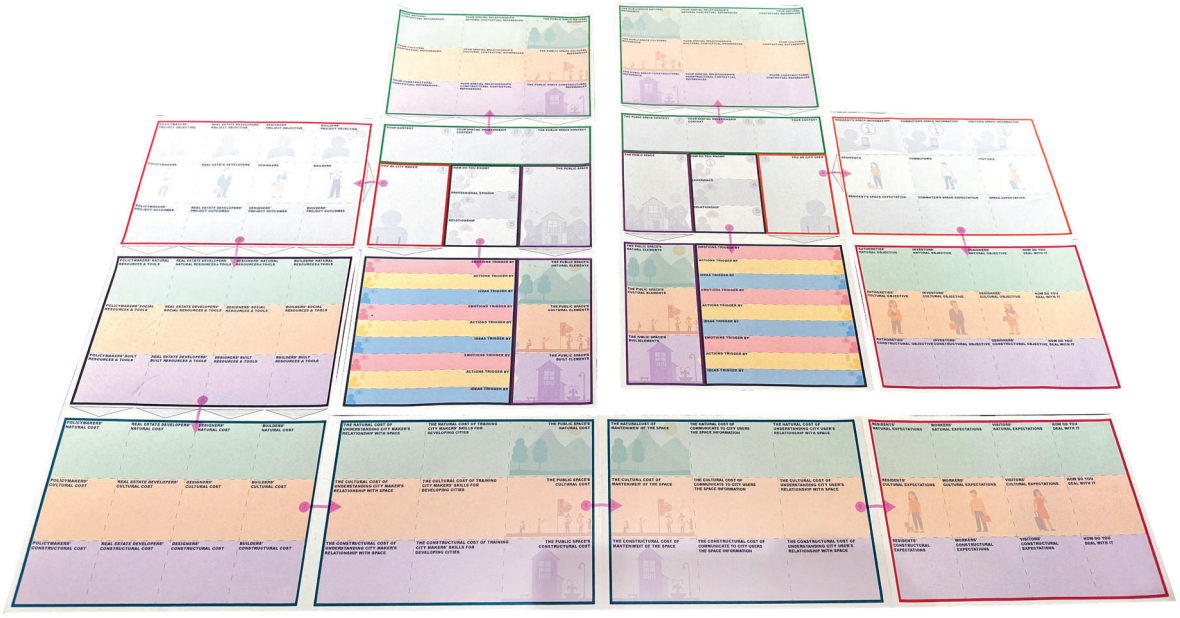


Image 138. *Structure-naire Canvas.*

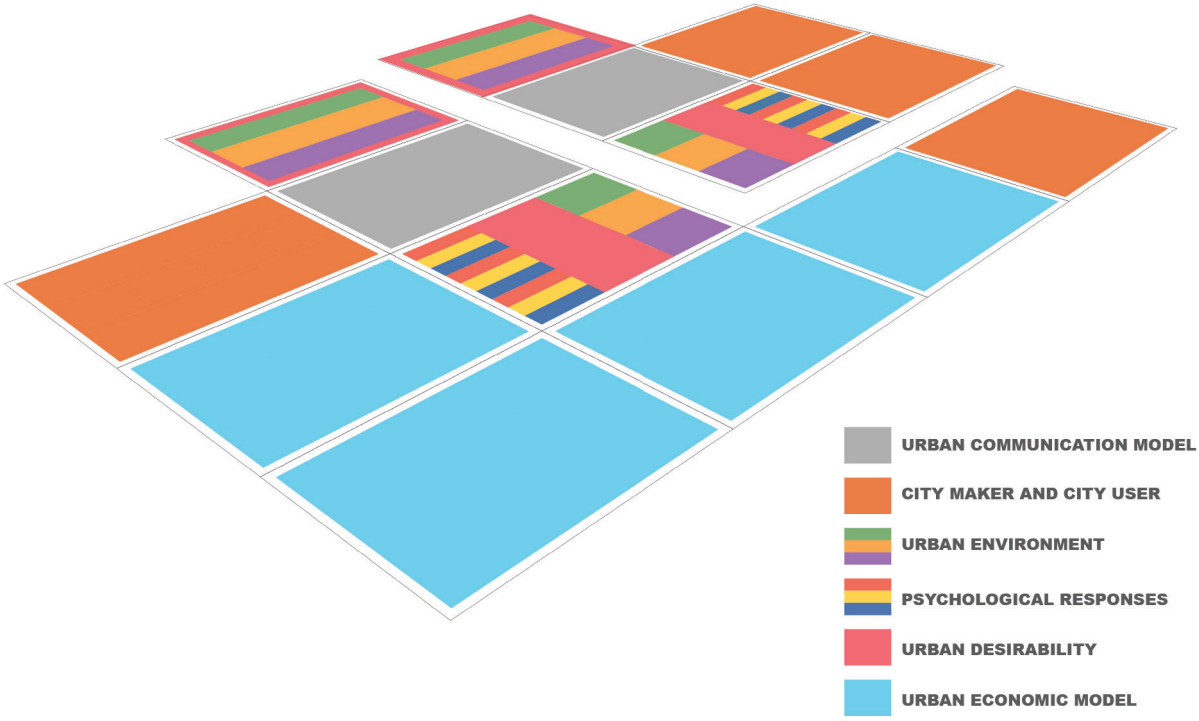


Image 139. *Diagram of the city maker's and user's part within the Structure-naire Canvas.*

Each half of the *Structure-naire Canvas* is independently structured to collect data relevant to the participant's positionality. For *city makers,* the canvas explores professional objectives, ecological and economic considerations, and stakeholder coordination. For *city users*, it is shorter, focusing on experiential perceptions, interpretations and aspirations regarding urban experiences. Together, the two parts enable a comparative

visual analysis that highlights convergence and divergence between *city makers* and *city users*, as well as their insights into urban expectations from both production and experience standpoints. See *Image 139*: *Diagram of the city maker's and city user's parts within the Structure-naire Canvas*.

22.5.6.1. *City makers*' part

The *city makers*' side of the canvas unfolds across nine steps as follows. See *Image 140*: *City maker's canvas unfolding steps.*

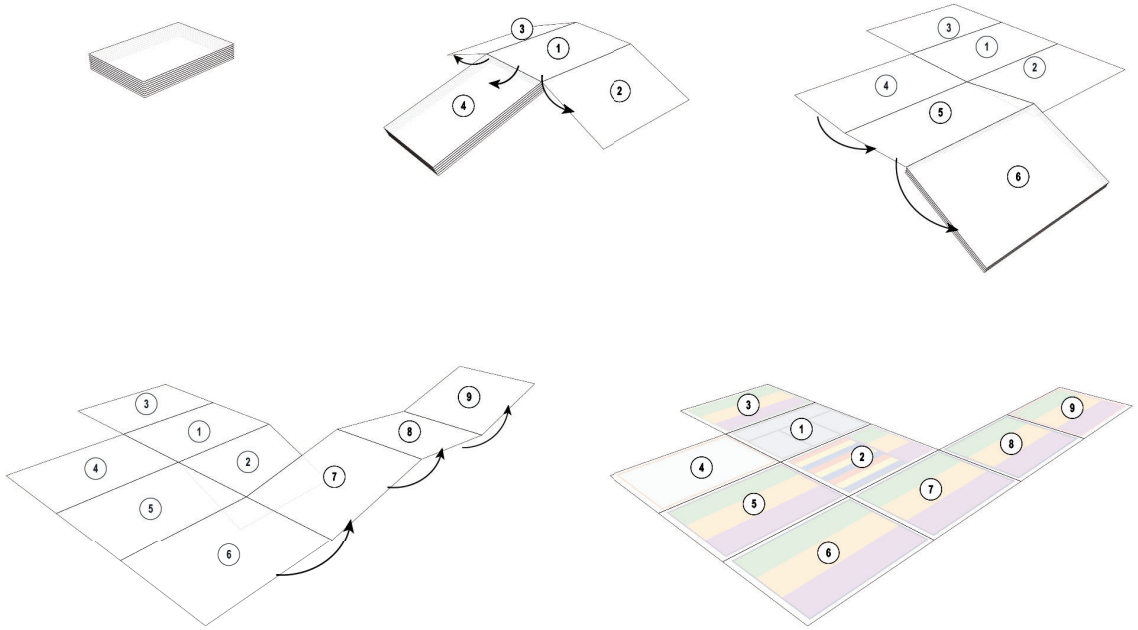


Image 140. *City maker's canvas unfolding steps.*

General observations: Capture participants' general understanding of the space, their positioning within that space, and their relationship with the space and its context. This exploration aligns with the *Holistic-Questionnaire* phase six. See *Image 141*: *City maker's canvas step one*.

Expanding on spatial relationships: Encourage the participant to consider the *natural*, *cultural*, and *built* (*constructural*) components of the space, and how each of these types of components triggers *emotions*, *actions*, and ideas (*reflections*) in the participant. This exploration aligns with the *Holistic-Questionnaire* phase seven. See *Image 142*: *City maker's canvas step two*.

Expanding on the context: Encourage the participant to consider the *natural*, *cultural*, and built (*constructural*) components of the environment and themselves. This exploration aligns with the *Holistic-Questionnaire* phase eight. See *Image 143*: *City maker's canvas step three*.

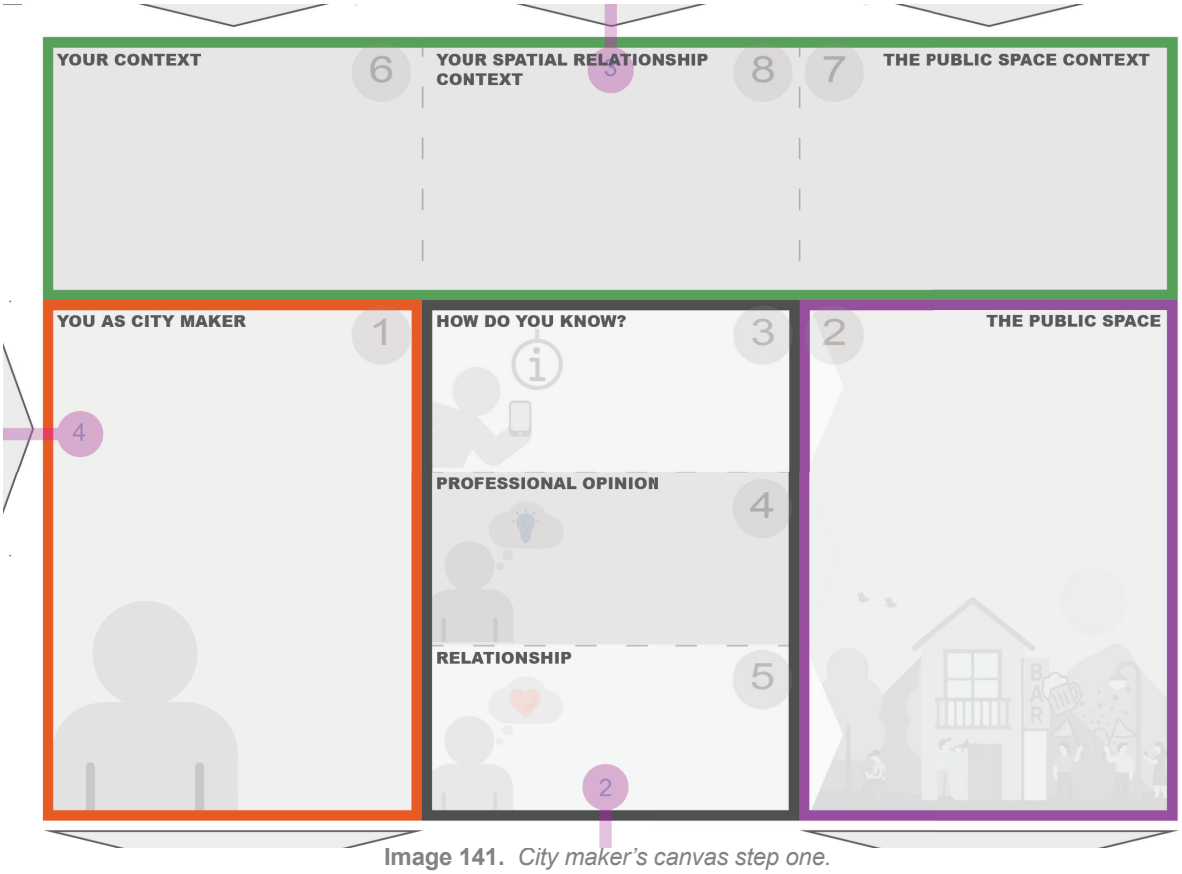


Image 141. *City maker's canvas step one.*

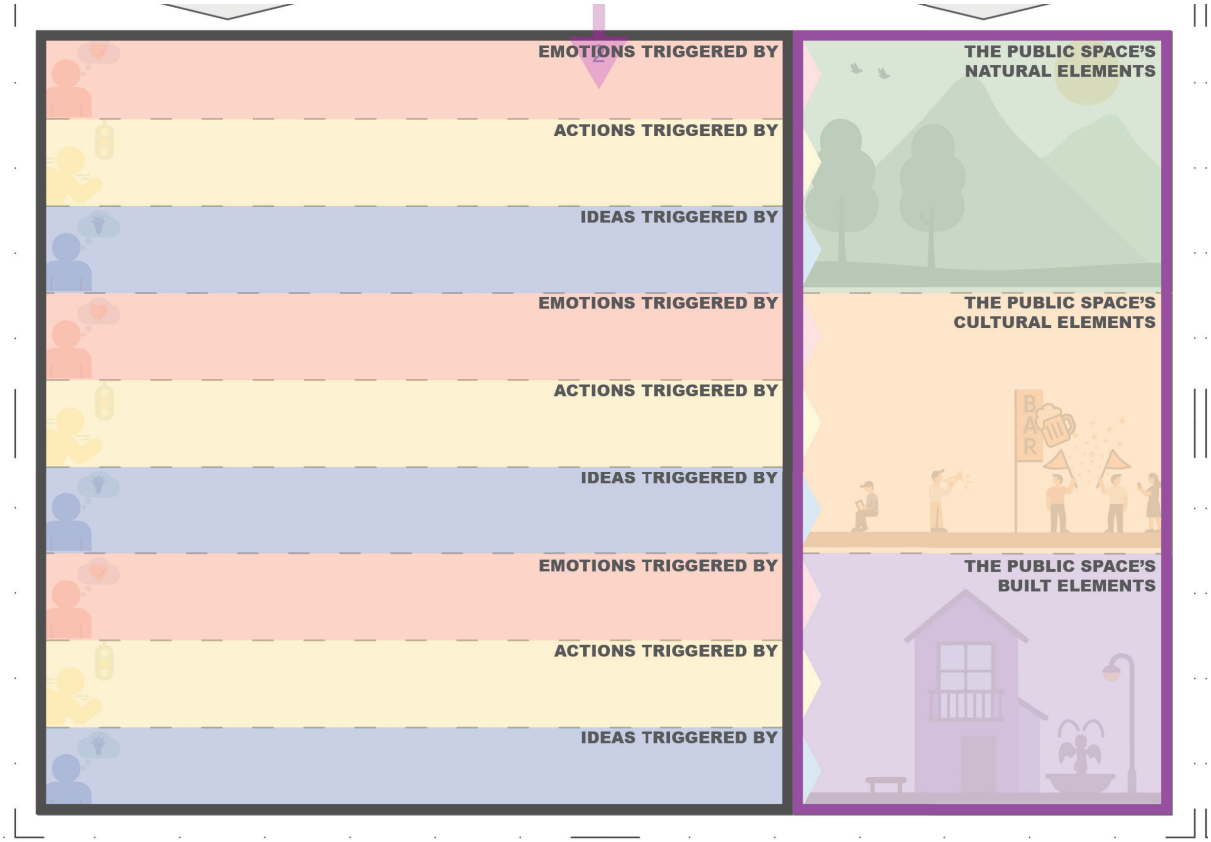


Image 142. *City maker's canvas step two.*

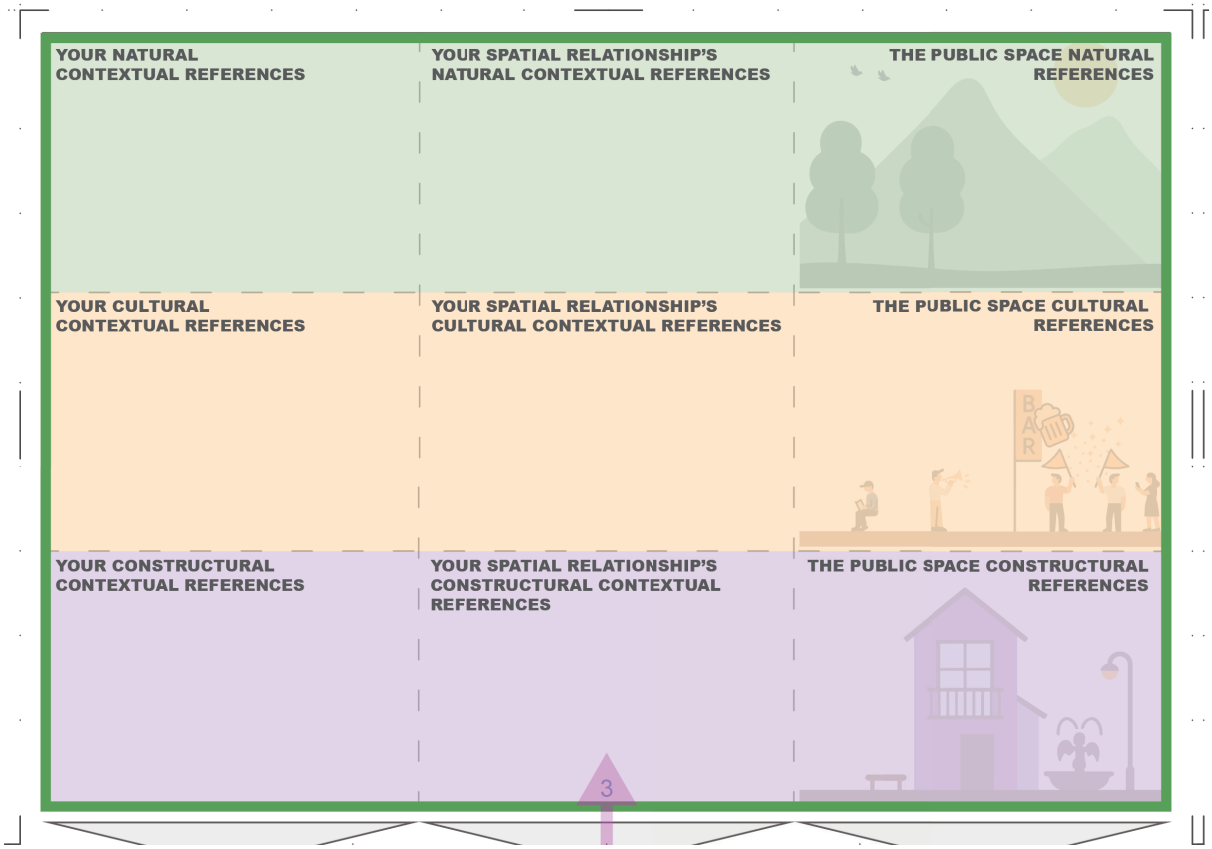


Image 143. *City maker's canvas step three.*

Expanding on *city makers*: Encourage participants to reflect on their fellow *city makers* and professionally evaluate the objectives and outcomes of the *city makers* involved in Xintiandi. This exploration aligns with the *Holistic-Questionnaire* phase nine. See *Image 144*: *City maker's canvas step four.*

Resources and tools: Encourage participants to continue professionally evaluating the *city makers* involved in Xintiandi, particularly in their use of resources and tools, from a *natural*, *cultural*, and built (*constructural*) perspective. This exploration aligns with the *Holistic-Questionnaire* phase ten. See *Image 145*: *City maker's canvas step five.*

City makers' costs: Encourage participants to continue professionally evaluating the *city makers* involved in Xintiandi, particularly regarding the *city makers*' expenses related to Xintiandi's development, from a *natural*, *cultural*, and built (*constructural*) perspective. This exploration aligns with the *Holistic-Questionnaire* phase eleven. See *Image 146*: *City maker's canvas step six.*

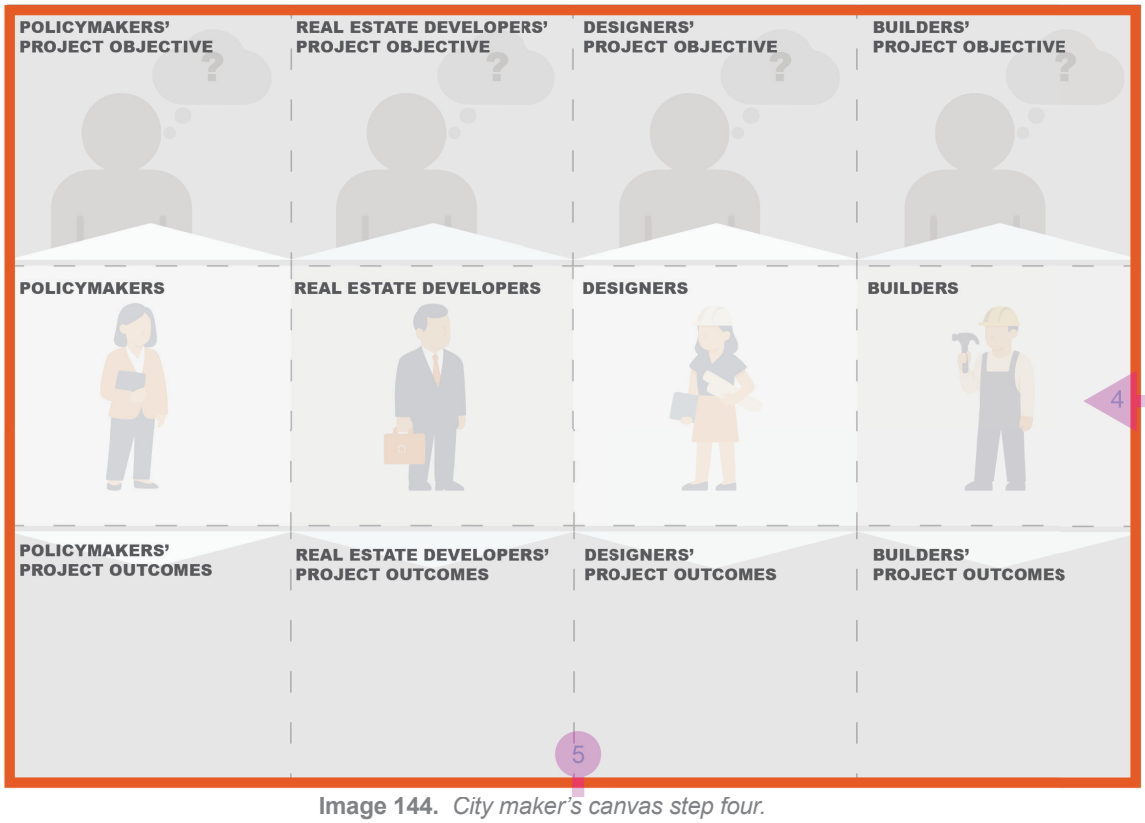


Image 144. *City maker's canvas step four.*

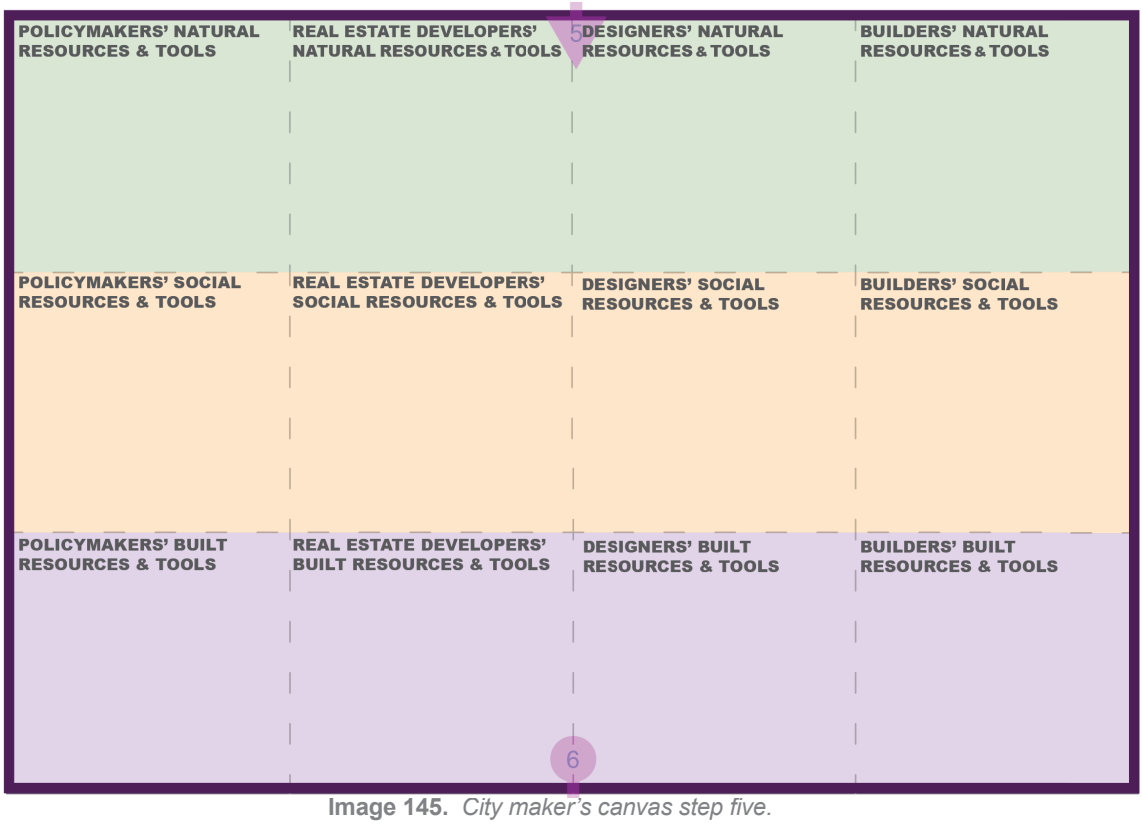


Image 145. *City maker's canvas step five.*

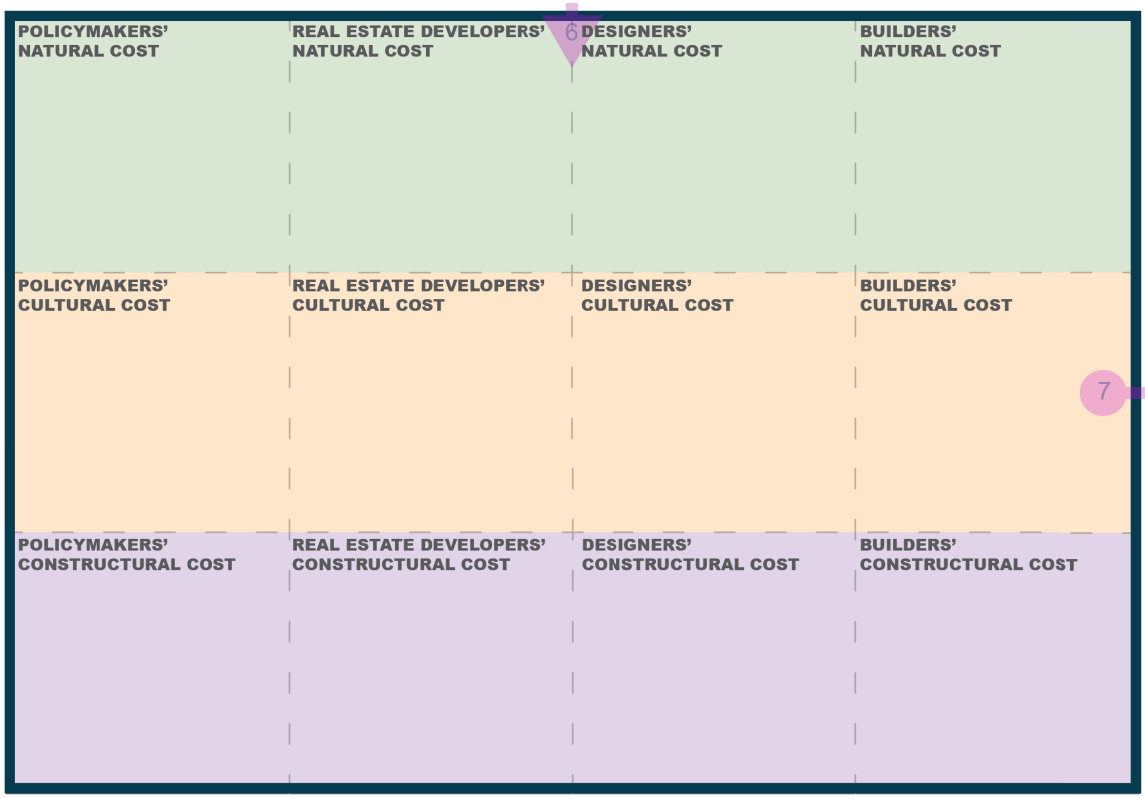


Image 146. *City maker's canvas step six.*

Costs for *city makers*: Encourage participants to continue professionally evaluating the *city makers* involved in Xintiandi, particularly regarding the expenses related to *city makers*' training, from a *natural*, *cultural*, and built (*constructural*) perspective. This exploration aligns with the *Holistic-Questionnaire* phase twelve. See *Image 147*: *City maker's canvas step seven.*

Costs for *city users*: Encourage participants to continue professionally evaluating the *city makers* involved in Xintiandi, particularly regarding the expenses related to managing *city users*' expectations, from a *natural*, *cultural*, and built (*constructural*) perspective. This exploration aligns with the *Holistic-Questionnaire* phase thirteen. See *Image 148*: *City maker's canvas step eight.*

City users' expectations: Encourage participants to evaluate the *city users*' expectations when experiencing Xintiandi, from a *natural*, *cultural*, and built (*constructural*) perspective and how they, as *city makers*, deal with these expectations. This exploration aligns with the *Holistic-Questionnaire* phase fourteen. See *Image 149*: *City maker's canvas step nine.*

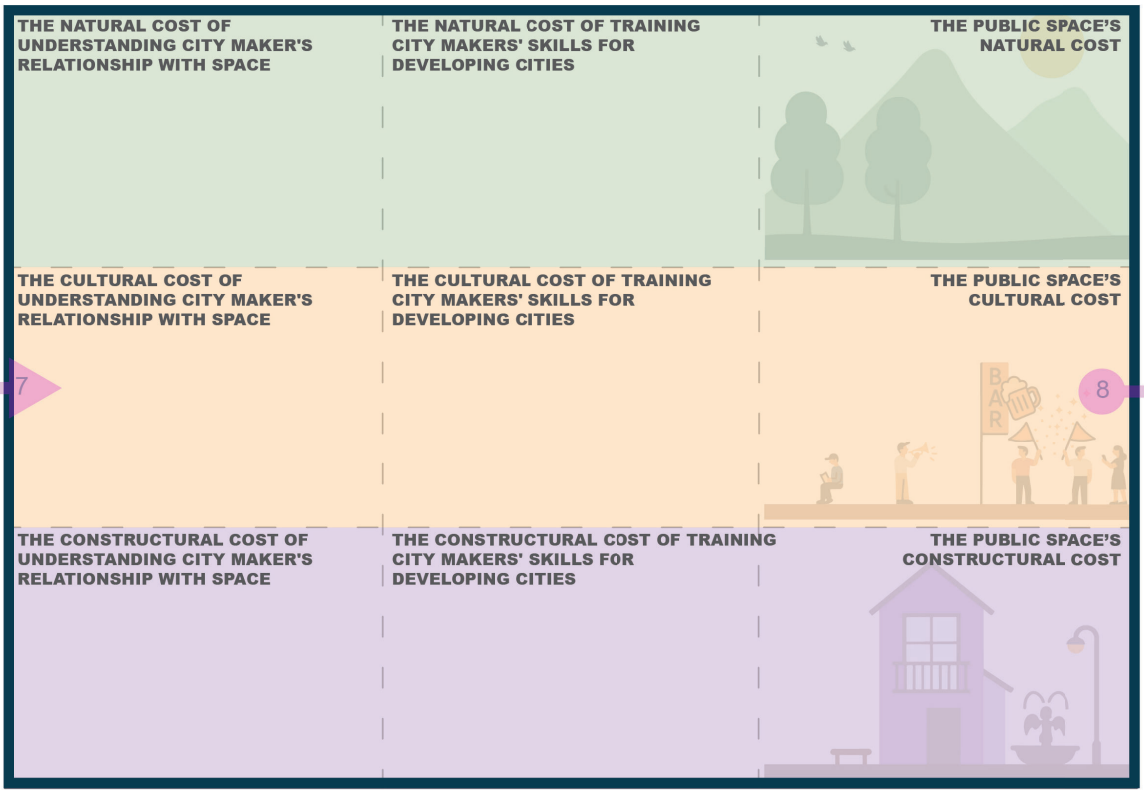


Image 147. *City maker's canvas step seven.*

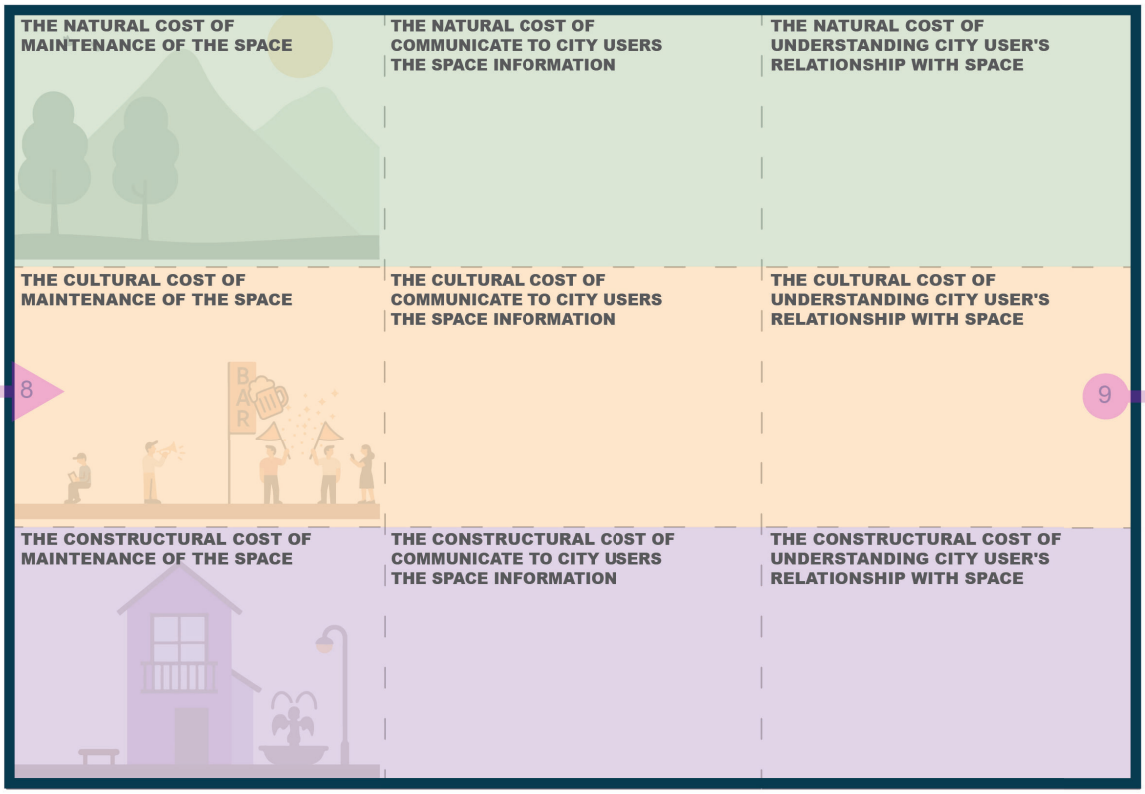


Image 148. *City maker's canvas step eight.*

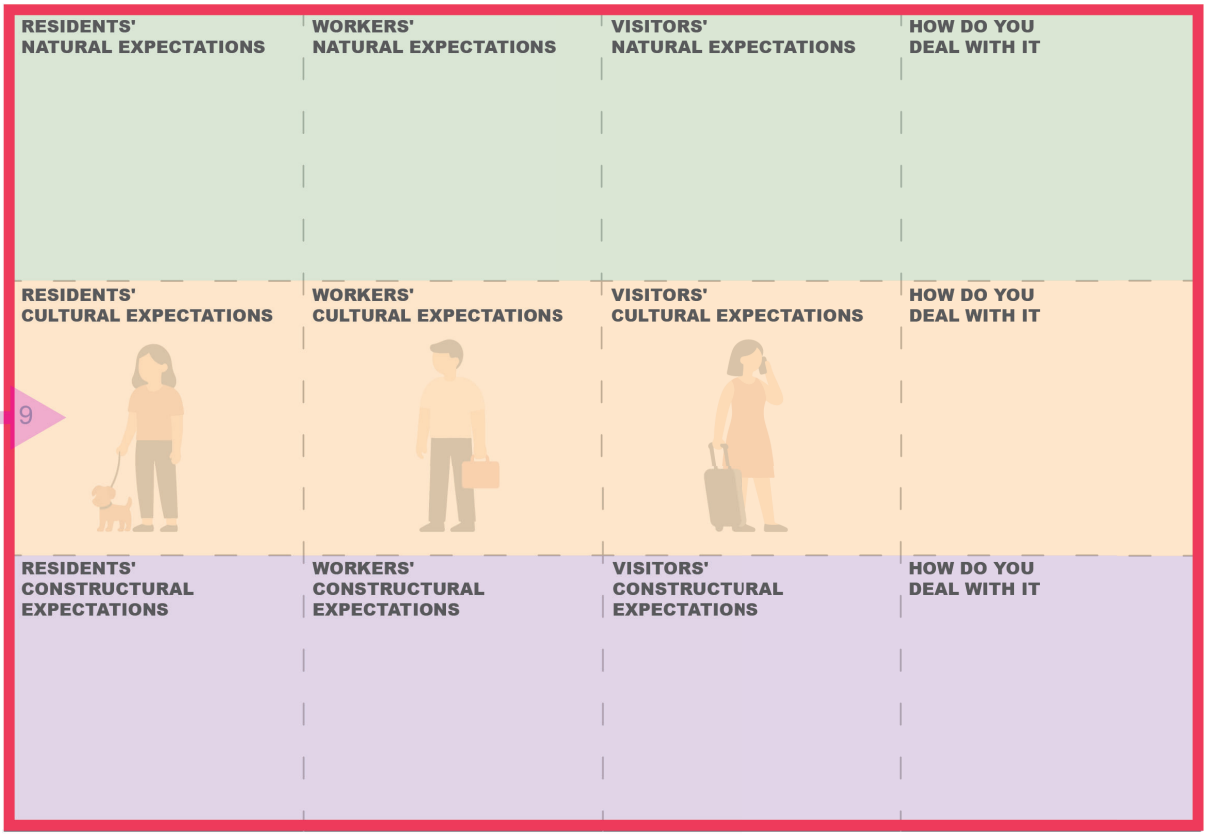


Image 149. *City maker's canvas step nine.*

22.5.6.2. *City users*' part

The *city users*' side of the canvas unfolds across five steps as follows. See *Image 150*: *City user's canvas unfolding steps.*

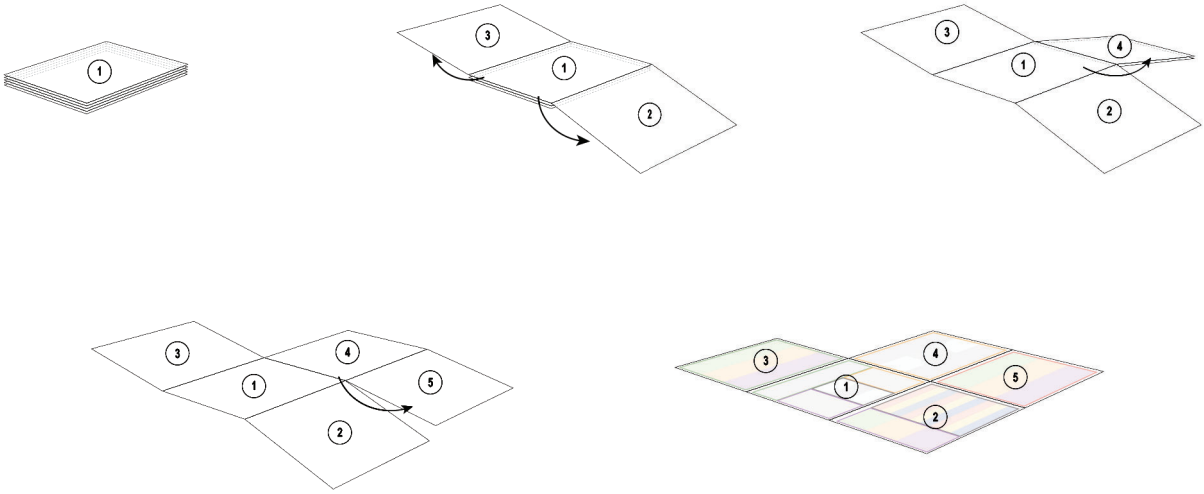


Image 150. *City user's canvas unfolding steps.*

General observations: Capture participants' general understanding of the space, their positioning within that space, and their relationship with the space and its context.

This exploration aligns with the *Holistic-Questionnaire* phase six. See *Image 151*: *City user's canvas step one*.

Expanding on spatial relationships: Encourage the participant to consider the *natural*, *cultural*, and *built* (*constructural*) components of the space, and how each of these types of components triggers *emotions*, *actions*, and ideas (*reflections*) in the participant. This exploration aligns with the *Holistic-Questionnaire* phase seven. See *Image 152*: *City user's canvas step two.*

Expanding on the context: Encourage the participant to consider the *natural*, *cultural*, and *built* (*constructural*) components of the environment and themself. This exploration aligns with the *Holistic-Questionnaire* phase eight. See *Image 153*: *City user's canvas step three.*

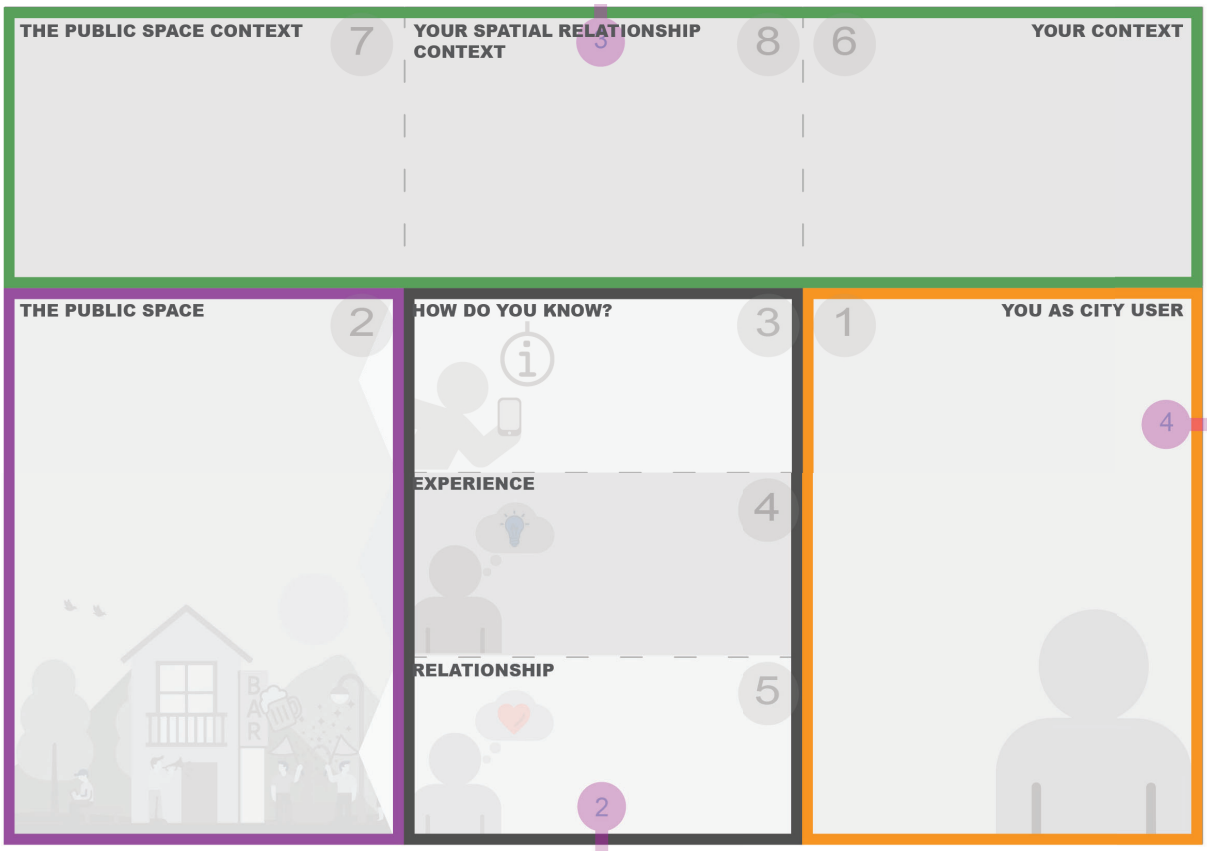


Image 151. *City user's canvas step one.*

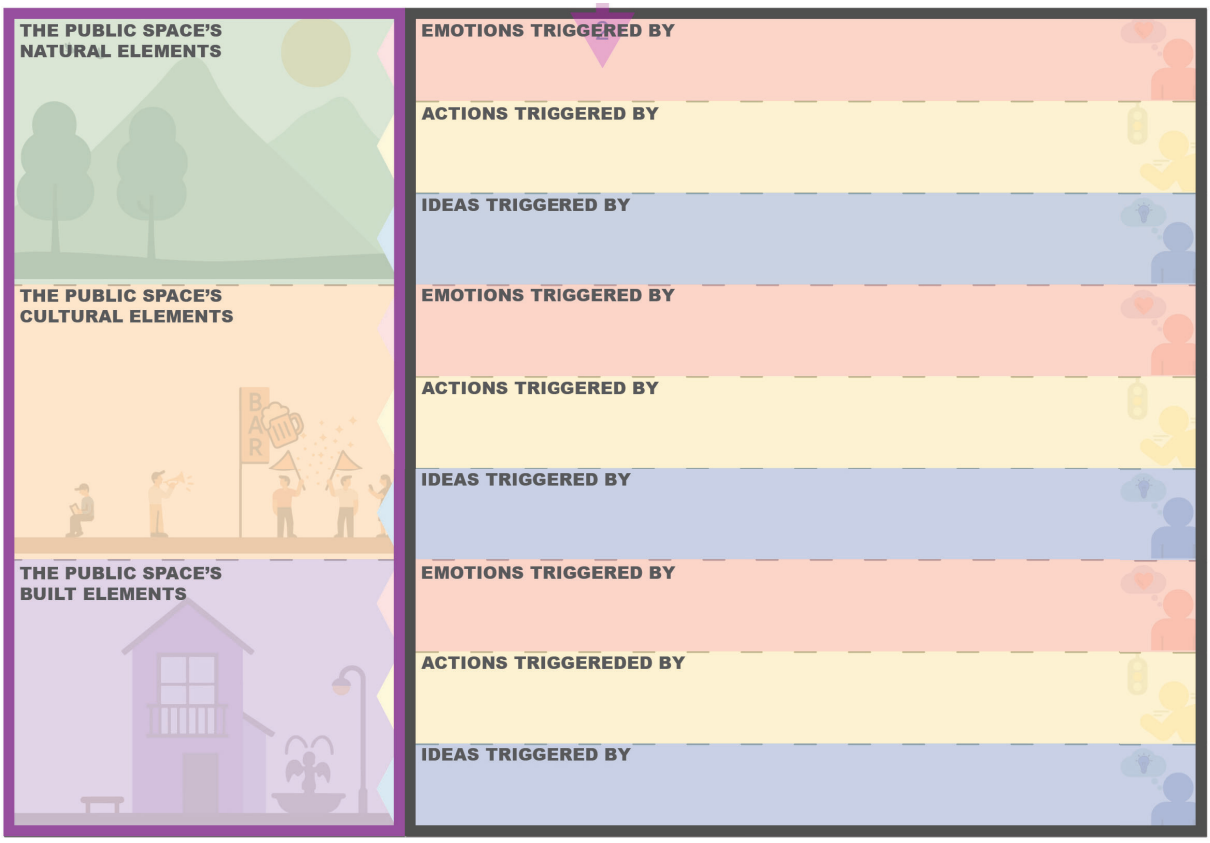


Image 152. *City user's canvas step two.*

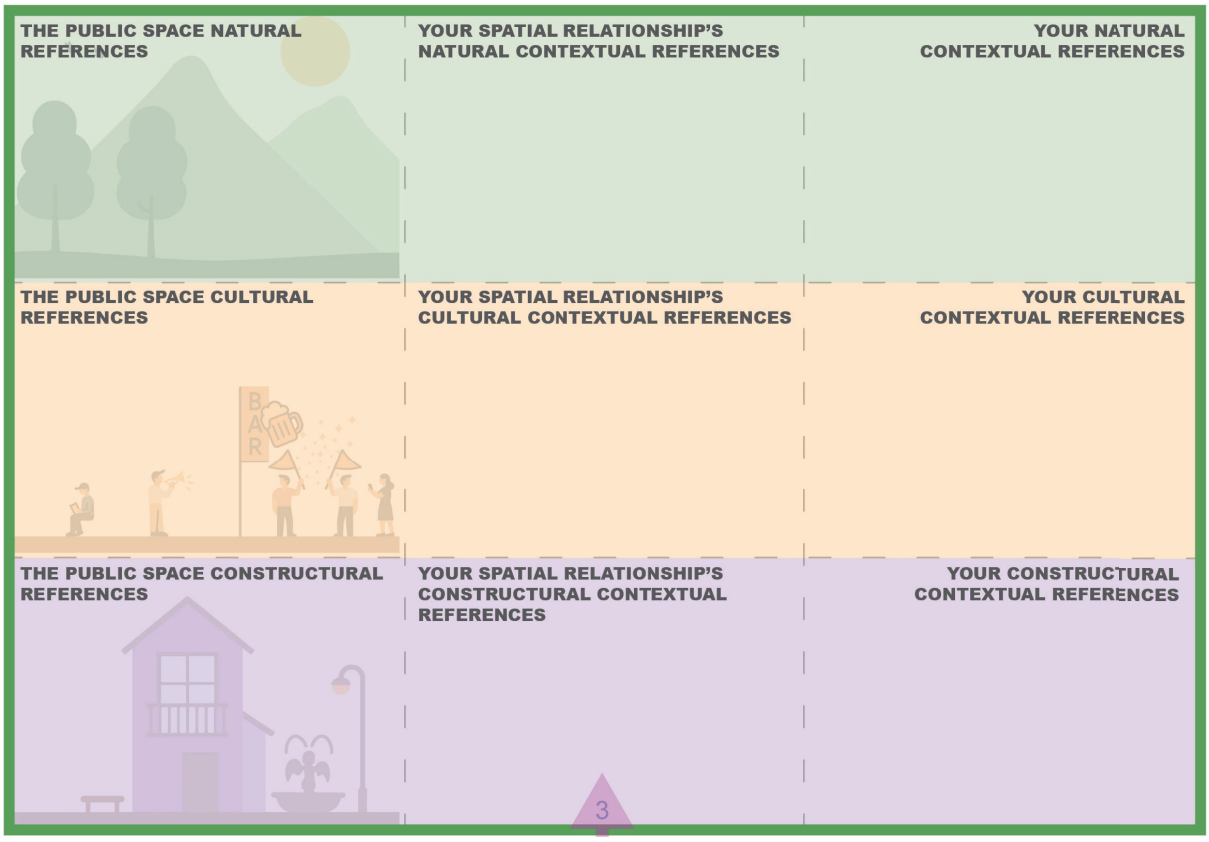


Image 153. *City user's canvas step three.*

Expanding on *city users*: Encourage participants to reflect on their fellow *city users* access to spatial information and their expectations of Xintiandi. This exploration aligns with the *Holistic-Questionnaire* phase nine. See *Image 154*: *City user's canvas step four.*

City maker's objective: Encourage participants to evaluate the *city makers*' objectives when developing Xintiandi, from a *natural*, *cultural*, and *built* (*constructural*) perspective and how they, as *city users,* deal with these objectives. This exploration aligns with the *Holistic-Questionnaire* phase fourteen. See *Image 155*: *City user's canvas step five.*

Within both parts of the canvas (*city maker*'s and *city user*'s), each section is colour-coded: green for *natural* systems, orange for *cultural* dynamics, purple for built (*constructural*) infrastructure, red for *emotions*, yellow for *actions*, and blue for ideas (reflections) with related iconography for ease of navigation. The canvas is printed on matte-coated, 170–200 gsm eco-certified paper to reduce glare, enhance writing comfort, and support durability during interview handling. Its foldable design permits the interviewer to reveal one phase at a time, maintaining clarity and structure. This layered but intuitive visual structure supports focused reflection and a professional tone.

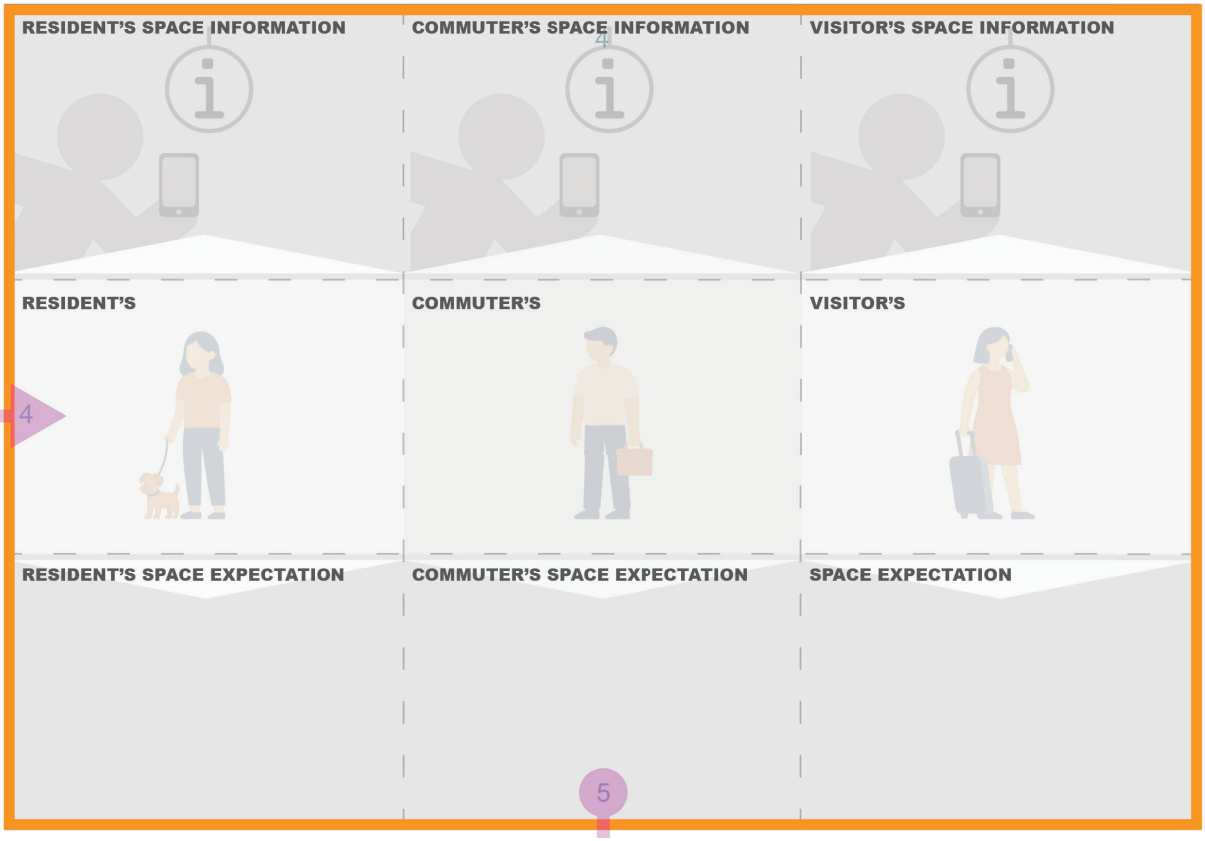


Image 154. *City user's canvas step four.*

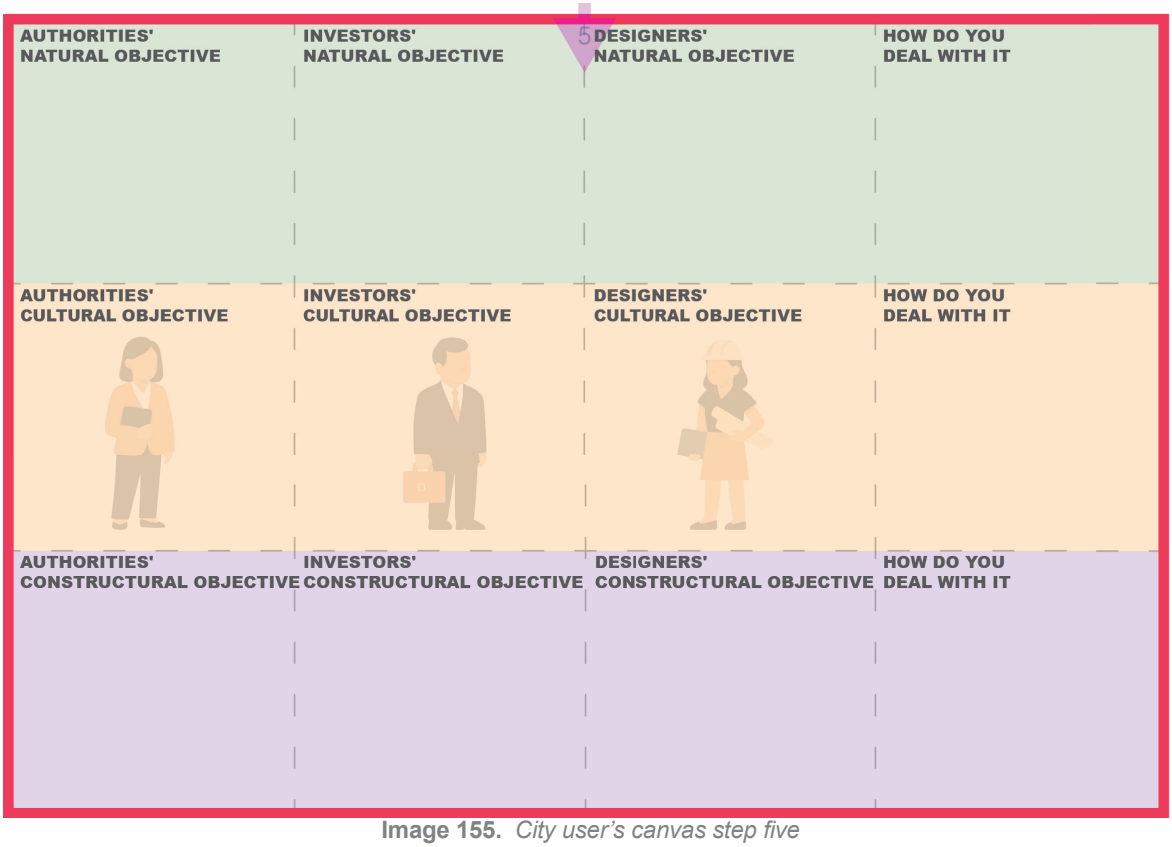


Image 155. *City user's canvas step five*

22.5.7. *Terms-naire Tray*

Additionally, the *Terms-naire Tray* was developed as a complementary elicitation tool. Based on *Desirable Cities*' preliminary studies, particularly the comparison analysis between the *Question-naire* and the *Picture-naire*. Participants struggled to articulate their reflections about Xintiandi using language with open questions, yet they were able to express their ideas more readily through the systematic process of selecting the frame, pressing the button to catch the picture, and using the stylus to mark the photo; the common operational protocol of these three processes is the simple selection-applicability. Suppose the *Structure-naire Canvas* addresses a linguistic elicitation by guided questions on a structural diagram. In that case, the *Terms-naire Tray* addresses the linguistic elicitation by simple selection of singular physical words, collectively structured in subcategories of *Desirable Cities'* main elicitation categories (*natural*, *cultural*, *built*, *emotions*, and *actions*, omitting *ideas* as they are deeply addressed in the canvas). The purpose is to cover any possibility of participants leaving empty sections of the *Structure-naire Canvas* or unspoken ideas because they cannot find the right words. Therefore, presenting participants with a tray (by categories) of selectable terms (words) that they can pick to address the missing information about Xintiandi, participants have one more medium to generate ideas about Xintiandi that they might struggle to find in their answers. See *Image 156*: *Terms-naire Tray*.



Image 156. *Terms-naire Tray.*

22.6. Empirical testing protocols for conducting the *Holistic-Questionnaire*

These protocols are organised into three phases: pre-interviews, during-interviews, and post-interviews (Brinkmann and Kvale 2018, 40). To support trustworthiness, dependability and procedural reliability in qualitative fieldwork, the procedures below draw on established interview and video-methods guidance (Lincoln and Guba 20, 289–331; Seidman 2006, 49).

Pre-interviews (technical preparations). The research team must arrive two hours before each interview to complete a checklist, consistent with guidance to arrive early, prepare the space and equipment, and verify materials: (Seidman 2006, 49).

- Checking cameras: battery, memory cards, microphone synchronisation, recording settings and other technical camera operations.

- Assessing the field of research: check weather conditions, lighting, noise, and general ambience for both the open-air spaces for the walk and the indoor space for the talk.

- Checking tools and instruments: verifying printing quality and readiness of the questionnaire, cards, canvas and its prompts.

The *during-interviews* phase is focused on the specific protocols that the research team must follow to avoid affecting the answers, make the participants comfortable and relaxed, and assist the tools group with the operations of the tools; therefore, each variation has its protocol as follows:

22.6.1. Protocol for *city maker* with tools (*Participant 91*)

For the *Stately-Walk*:

- Friendly greetings. Appreciation for the participation.

- Briefing for the walk.

- Preparation of the camera and microphone.

(Questions QCM-W-01 to QCM-W-04)

- Ask the *city makers* to start the walking tour to introduce Xintiandi to the interviewer

- Encourage the *city maker* to point out all the site's relevant features.

(Question QCM-W-05)

- Appreciation for the walk.

(Questions QCM-W-06 to QCM-W-07)

- Invitation to the indoor space for the talk.

- Arrival at the indoor space for the talk.

For the *Insightful-Talk*:

- Offering the participants a drink and snacks.

- Briefing for the talk.

- Give participants the *Emotion-naire Cards*.

- Tool instruction: "This card set is designed to help you remember what is available in Xintiandi".

(Question QCM-T-01)

- Tool instruction: "Please use these cards to create groups on how you could

organise the different elements in Xintiandi. Every time you see a card please let me know whether or not you saw that element in our walk today or your previous visits to this place".

(Question QCM-T-02)

- Help the participants open all the cards up on the table facing the participant's reading position.

- Tool instructions: "Please point with your finger to the elements you like best". "Please use the cards to create an ideal experience you would like to have. Please describe it as a storyline, with cards next to each other. Use as many cards as you wish."

- Then, the interviewer must collect and store all the cards and introduce the *Structure-naire Canvas* to the participants.

- Explain to the participants how this canvas, divided into nine (10) steps, is designed to help them respond to the following questions.

- Tool instruction: "You can use the boxes on this canvas to reply to the following questions. Your responses are also being recorded and as such it is not mandatory that you write your answers on the canvas".

(Questions QCM-T-03 to QCM-T-10)

- Unfold the canvas's step two.

- Tool instruction: Describe to the participant that step two is about the space's *natural*, *cultural*, and *built* components and their interaction with these components in terms of *emotions*, *actions*, and *ideas*.

(Questions QCM-T-11 to QCM-T-13)

- Unfold the canvas's step three.

- Tool instruction: Describe to the participant that step three is about the context of the relationship between the space and them, and that it is also separated into *natural*, *cultural*, and *built* components.

(Question QCM-T-14)

- Unfold the canvas's step four.

- Tool instruction: Describe to the participant that step four is about their understanding of other *city makers.*

(Question QCM-T-15 to QCM-T-16)

- Unfold the canvas's step five.

- Tool instruction: Describe to the participant that step five is about *city makers*' resources to make Xintiandi.

(Question QCM-T-17)

- Unfold the canvas's step six.

- Tool instruction: Describe to the participant that step six is about the material costs for *city makers*.

(Question QCM-T-18)

- Unfold the canvas's step seven.

- Tool instruction: Describe to the participant that step seven is about the cost related to information and training for *city makers*.

(Question QCM-T-19 to QCM-T-20)

- Unfold the canvas's step eight.

- Tool instruction: Describe to the participant that step eight is about the cost related to Xintiandi's maintenance and *users*.

(Question QCM-T-21 to QCM-T-22)

- Unfold the canvas's step nine.

- Tool instruction: Describe to the participant that step nine is about *city users*' expectations and how they deal with them as *city makers*.

(Question QCM-T-23)

- Unfold the canvas's step ten.

- Tool instruction: Describe to the participant that step ten is about *residents, commuters and visitors*' expectations and how they deal with it as *city makers*.

(Question QCM-T-24)

- Show and explain the instrument *Terms-naire Tray* to help the participant fulfil any details that may be missed in the *Structure-naire Canvas.*

(Question QCM-T-25)

- Show appreciation again.

- Show the participants the way out and walk next to them to the exit with warm goodbyes.

22.6.2. Protocol for *city maker* without tools (*Participant 92*)

For the *Stately-Walk*:

- Friendly greetings. Appreciation for the participation.

- Briefing for the walk.

- Preparation of the camera and microphone.

(Questions QCM-W-01 to QCM-W-04)

- Ask the *city makers* to start the walking tour to introduce Xintiandi to the interviewer.

- Encourage the *city maker* to point out all the site's relevant features.

(Question QCM-W-05)

- Appreciation for the walk.

(Questions QCM-W-06 to QCM-W-07)

- Invitation to the indoor space for the talk.

- Arrival at the indoor space for the talk.

For the *Insightful-Talk*:

- Offering the participants a drink and snacks.

- Briefing for the talk.

(Question QCM-T-01 to QCM-T-25)

- Show appreciation again.

- Show the participants the way out and walk next to them to the exit with warm goodbyes.

22.6.3. Protocol for *city user* with tools (*Participant 93*)

For the *Chatty-Walk*:

- Friendly greetings. Appreciation for the participation.

- Briefing for the walk.

- Preparation of the camera and microphone.

(Questions QCU-W-01 to QCU-W-04)

- Ask the *city users* to start the walking tour to introduce Xintiandi to the interviewer.

- Encourage the *city user* to point out all the site's relevant features.

(Question QCU-W-05)

- Appreciation for the walk.

(Questions QCU-W-06 to QCU-W-07)

- Invitation to the indoor space for the talk.

- Arrival at the indoor space for the talk.

For the *Playful-Talk*:

- Offering the participants a drink and snacks.

- Briefing for the talk.

- Give participants the *Emotion-naire Cards*.

- Tool instruction: "This card set is designed to help you remember what is available in Xintiandi".

(Question QCU-T-01)

- Tool instruction: "Tool instruction: "Please use these cards to create groups on how you could organise the different elements in Xintiandi. Every time you see a card, please let me know whether or not you saw that element in our walk today or your previous visits to this place"

(Question QCU-T-02)

- Help the participants open all the cards up on the table facing the participant's reading position.

- Tool instructions: "Please point with your finger to the elements you like best". "Please use the cards to create an ideal experience you would like to have. Please describe it as a storyline, with cards next to each other. Use as many cards as you wish."

- Then, the interviewer must collect and store all the cards and introduce the *Structure-naire Canvas* to the participants.

- Explain to the participants how this canvas, divided into nine (10) steps, is designed to help them respond to the following questions.

- Tool instruction: “You can use the boxes on this canvas to reply to the following questions. Your responses are also being recorded and as such it is not mandatory that you write your answers on the canvas”.

(Questions QCU-T-03 to QCU-T-10)

- Unfold the canvas’s step two.

- Tool instruction: Describe to the participant that step two is about the space’s *natural*, *cultural*, and *built* components and their interaction with these components in terms of *emotions*, *actions*, and *ideas*.

(Questions QCU-T-11 to QCU-T-12)

- Unfold the canvas’s step three.

- Tool instruction: Describe to the participant that step three is about the context of the relationship between the space and them, and that it is also separated into *natural*, *cultural*, and *built* components.

(Question QCU-T-13)

- Unfold the canvas’s step four.

- Tool instruction: Describe to the participant that step four is about their understanding of other *city users.*

(Question QCU-T-14 to QCU-T-15)

- Unfold the canvas’s step nine.

- Tool instruction: Describe to the participant that step five is about *city makers*’ expectations and how they deal with them as *city users*.

(Question QCU-T-16)

- Show and explain the instrument *Terms-naire Tray* to help the participant fulfil any details that may be missed in the *Structure-naire Canvas.*

(Question QCM-T-17)

- Show appreciation again.

- Show the participants the way out and walk next to them to the exit with warm goodbyes.

22.6.4. Protocol for *city user* without tools (*Participant 94*)

For the *Chatty-Walk*:

- Friendly greetings. Appreciation for the participation.

- Briefing for the walk.

Preparation of the camera and microphone.

(Questions QCU-W-01 to QCU-W-04)

- Ask the *city users* to start the walking tour to introduce Xintiandi to the interviewer.

- Encourage the *city user* to point out all the site's relevant features.

(Question QCU-W-05)

- Appreciation for the walk.

(Questions QCU-W-06 to QCU-W-07)

- Invitation to the indoor space for the talk.

- Arrival at the indoor space for the talk.

For the *Playful-Talk*:

- Offering the participants a drink and snacks.

- Briefing for the talk.

(Question QCU-T-01 to QCU-T-17)

- Show appreciation again.

- Show the participants the way out and walk next to them to the exit with warm goodbyes.

22.7. Empirical testing's data collection

This systematic, multi-modal, and triangulated approach is used to gather empirical data for the empirical tools testing phase of *Desirable Cities*. The data collection strategy

is conceived as a *holistic*, mixed-methods framework designed to capture the multifaceted nature of urban experience, as outlined in the research design, enabling the addressing of the variety of the *holistic* environment components (*natural*, *cultural*, *constructural*), the variety of *city makers* groups (*policymakers*, *real estate developers*, *designers*, *builders*), the variety of *city makers* of *city users* groups (*residents*, *commuters*, and *visitors*), and the *cities' PIDs* (through the articulation of *symbols* and *imageries* in its relationship with expectations of *feelings*, *activities* and *meanings*). It combines immersive urban ethnography, multi-perspective visual data capture, and structured elicitation techniques to generate a rich, triangulated dataset, offering a comparison analysis of visual data from the free-walks to guided-talks; of verbal data from open-questions of the walks to guided-questions of the talks, and of visual and verbal data from the walk and talk experiences. The primary objective of this data collection is to gather sufficient empirical evidence whether or not the *tools group*, comparing to the *control group*, produced more data addressing the *holistic* environment components, *city makers* and *city users* groups, and *cities' PIDs,* to test the thesis's central research question: Can semiotic methods and didactical visual tools help *city makers* and *city users* to identify and communicate their expectations for desirable urban experiences, to satisfy them *holistically*? This process reveals expectations of *feelings*, *activities* and *meanings* of urban experiences that emerge from the symbols and imageries obtained from *natural*, cultural and *constructural* environments.

The data collection framework is built on the principle of triangulation to ensure credibility, depth, and a comprehensive understanding of the phenomenon under investigation. This approach involves systematically gathering and cross-verifying information from multiple data sources and using diverse methods to capture the complexity of participants' interactions with the urban environment. Data collection is organised around four primary modalities: verbal data, visual data, and observational data.

22.7.1. Verbal data: Articulating interpretations from participants' transcripts

This data stream is focused on capturing the participant's articulated thoughts, tracking their cognitive journey from initial impressions to structured, reflective arguments. This corresponds to the Peircean category of *Thirdness*, which involves interpretation, mediation, and the formation of general concepts or laws. From these, *Cities' PIDs* can

be identified as imageries of expectations. This data is organised using the *Holistic-Questionnaire* to provide a comparative analysis between the participants; therefore, the data is organised into two main groups for each participant (during the walk and talk sessions). It serves as the primary instrument for eliciting responses and ensures consistency across all four participants. Its primary function is to provide a stable baseline for the comparative analysis between the *tools group* and the *control group*, allowing for a direct assessment of the tools' impact on the richness and depth of verbal responses. The data generated includes verbatim transcripts of all audio-recorded interviews and high-resolution digital scans of the completed *Structure-naire Canvas*.

22.7.2. Visual data: Capturing the phenomenological encounter from camera's recordings

The collection of visual data is designed to document the participant's embodied, in-situ experience of the urban environment, capturing both their visual focus in relationship with their spontaneous verbal reactions. This data stream directly corresponds to the Peircean phenomenological categories of *Firstness* (the raw, unanalysed quality of perception) and *Secondness* (the brute fact of interaction with the environment). The following tools are employed:

Ca(p)mera: This discreet, wearable camera is mounted on a cap worn by the participant during the *Stately-Walk* and *Chatty-Walk* sessions. It captures a first- person point of view, providing an unfiltered record of the participant's gaze and visual attention. This method reveals which environmental elements attract, repel, or hold the participant's focus, offering direct access to their pre-reflective perceptual experience. This aligns with contemporary practices in mobile video ethnography that seek to capture authentic, participant-centred perspectives.

Following>Camera: Operated by a researcher, this camera documents the participant's engagement from a third-person perspective. It records the participant's body language, patterns of movement, and interaction with the surrounding space and the interviewer. This method provides crucial context for first-person footage and captures non-verbal data that reveals the participant's embodied response to the urban setting.

FloatingvCamera: This fixed, overhead camera is used during the indoor *Insightful-Talk* and *Playful-Talk* sessions. It records the participant's physical interaction with the *Emotion-naire Cards* and the *Structure-naire Canvas*. The footage from this camera captures the material process of meaning-making: how cards are sorted, where hesitation

occurs, the sequence of choices, and how abstract ideas are mapped onto the canvas, thereby documenting the cognitive process of articulation.

All visual data consists of high-definition video recordings with synchronised audio, ensuring that verbal commentary can be precisely linked to visual stimuli and physical actions, which will be presented in the printed version of the thesis as frames of the video in correlation with the audio recordings.

22.7.3. Ethnographic data: Documenting context and nuance from ethnographic notes

Ethnographic data is collected throughout the entire empirical process to ensure a genuine account of participants' interactive behaviour and the researcher's role in the process.

Ethnographic Field Notes: The lead researcher maintains detailed field notes during and after each session. These notes document crucial contextual details (e.g., weather, crowd density, ambient sounds), non-verbal cues from the participant (e.g., behaviour, gestures, tone of voice), and any unexpected interactions or events that might influence the data.

Participants' interactive behaviour: As the methodology incorporates playful and interactive tools and protocols to access participants' tacit knowledge and cognitive frameworks that may be difficult to express verbally. This approach is designed to overcome the limitations of purely linguistic or visual data collected by cameras and microphones. These notes are planned to be compared with the primary data source, which is the overhead video recording from the *FloatingvCamera*, which captures the entire interactive process of the participants' final card arrangements.

Reflexive Journaling: In line with best practices for ensuring rigour in qualitative research, the researcher engages in reflexive journaling. This practice involves critically examining and documenting one's positionality, potential biases, and influence on the research process and data interpretation.

This data consists of written field notes and journal entries, which provide an essential interpretive layer for triangulating findings.

22.7.4. Data collection protocol

A rigorous protocol guides every stage of the data collection process to ensure consistency, reliability, and ethical compliance. The protocol is divided into three phases: pre-interview, during-interview, and post-interview. See *Table 06*: *Empirical data collection*

Table 06

Empirical testing's data collection

INSTRUMENTS AND TOOLS	***Data type collected***	***Pragmaticism's categories***	***Aspects of the research questions addressed***
HOLISTIC-QUESTIONNAIRE	Verbal data (transcripts)	Thirdness	Eliciting articulated *holistic* urban expectations and *cities' PIDS*
CA(P)MERA	Video/Audio data (first-person POV)	Firstness	Capturing the participant's direct, unmediated visual perceptions
FOLLOWING>CAMERA	Video/Audio data (third-person) contextual	Secondness	Documenting how participants navigate and engage with spaces
FLOATING>CAMERA	Video/Audio data Overhead view interaction	Secondness and Thirdness	Analysing the cognitive process of sorting and structuring ideas
EMOTION-NAIRE CARDS	Visual data Interactive	Possibility	Helping participants identifying and communicate expectations
STRUCTURE-NAIRE CANVAS	Visual data Diagrammatic	Thirdness	Structuring and externalizing participants *holistic* understanding
TERMS-TRAY	Visual data Interactive	Secondness and Thirdness	Helping participants identifying and communicate ideas

The pre-interview phase involves meticulous technical preparation. The research team arrives at the field site two hours in advance to perform equipment checks on all cameras and microphones, assess the environmental conditions for the walk and talk sessions, and verify the readiness of all tools and instruments.

The during-interview phase is governed by specific protocols for each participant type to ensure comfort, minimize researcher influence, and provide clear instructions for tool usage. These protocols, detailed in section 11.6, standardise the research encounter while allowing for spontaneous interaction.

The post-interview phase focuses on systematic data management. Immediately following each session, all raw data (video, audio, photos, notes) are archived and backed up to a secure, encrypted server and a separate physical drive see *Image 157*: *Empirical testing file system - Pre-interviews,* and *Image 158*: *Empirical testing file system - Post-interviews*. A consistent file-naming convention is used for all files. All audio recordings are transcribed verbatim, and transcripts are anonymised to protect participant confidentiality. This meticulous approach to data management ensures the

integrity and security of the collected information, preparing it for the subsequent analysis stage.

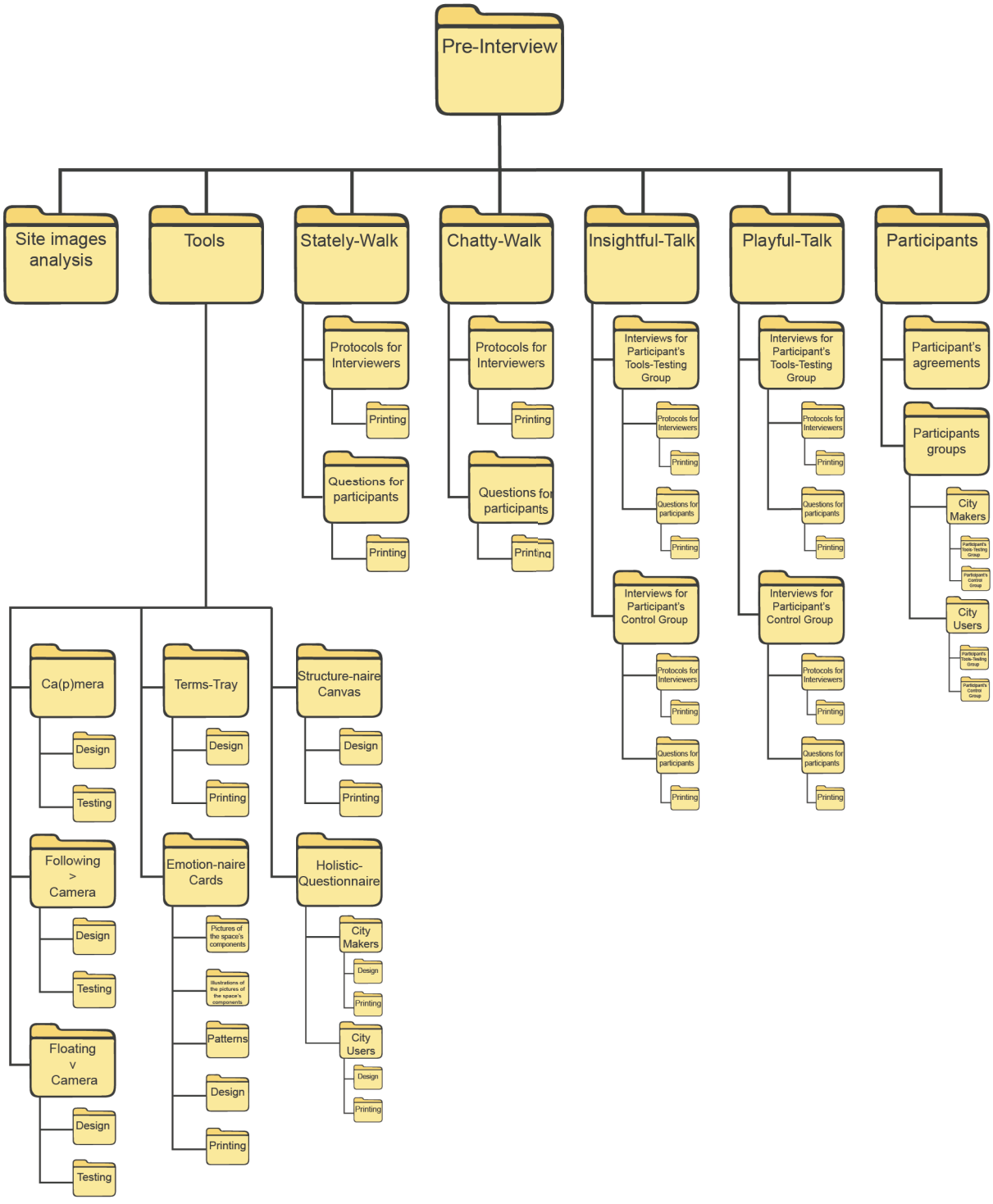


Image 157. *Empirical testing file system - Pre-interviews.*

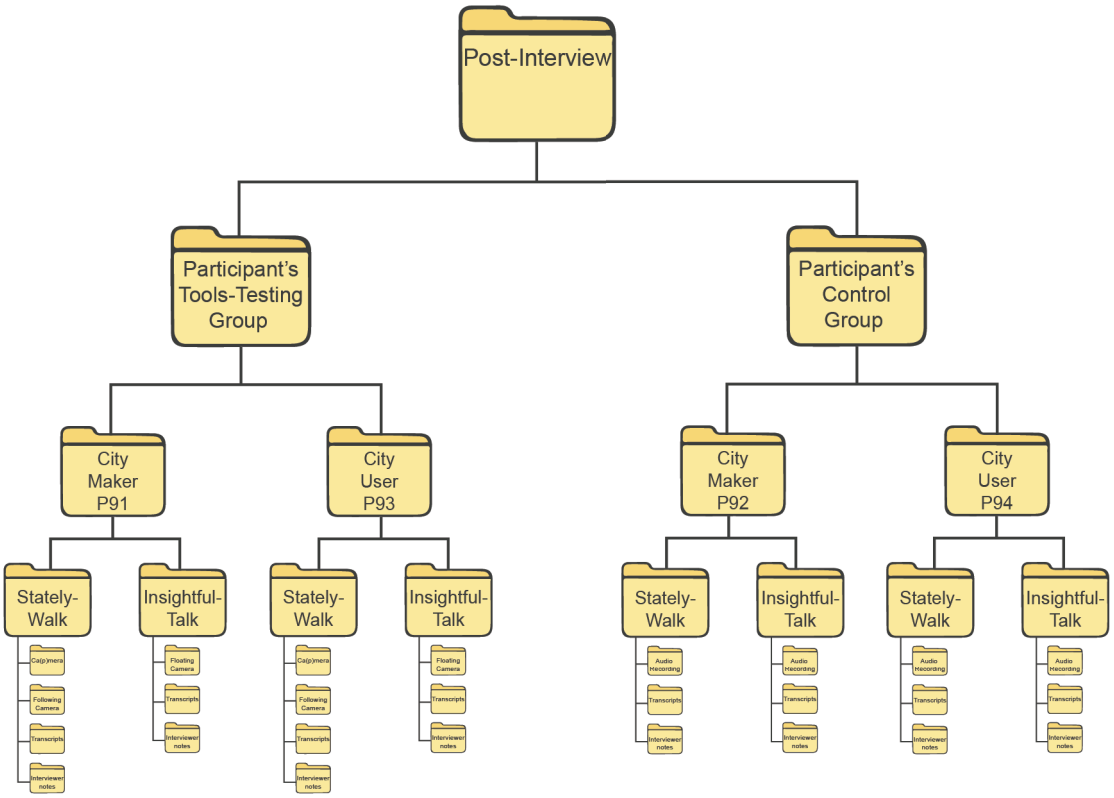


Image 158. *Empirical testing file system - Post-interviews.*

22.8. Empirical testing's data analysis

The analytical framework is guided by the Peirce's cycle of inquiry (*abduction*, *induction*, *deduction*) and is foundationally structured around the principle of triangulation to ensure the credibility and trustworthiness of the findings. It combines reflexive thematic analysis, visual and material semiotics, and a logic of qualitative comparison to move from granular observations to robust, cross-validated conclusions. The overarching goal of the analysis is to determine whether the *Desirable Cities* tools demonstrably enhance the thematic richness, *holistic* integration, and communicative efficacy of participants' expressed expectations for desirable urban experiences. Concretely, the analysis tests three claims: (1) thematic richness increases; (2) *holistic* integration across *natural–cultural–constructural* dimensions improves; and (3) communicative efficacy between roles is enhanced.

22.8.1. Data analysis techniques

The analysis unfolds across several integrated stages, each building upon the previous one to construct a multi-layered interpretation of the data.

22.8.1.1. Stage 1: Thematic analysis of verbal and observational data

The initial stage of analysis focuses on inductively identifying the core themes, patterns, and concepts present in the participants' verbal responses and the researcher's field observations. This process forms the foundational layer of the analysis, grounding it in the lived experiences and articulated narratives of the participants. A reflexive thematic analysis approach is employed, following a systematic six-phase process:

Familiarization: The researcher undertakes repeated, active reading of the interview transcripts and ethnographic field notes to achieve deep immersion in the dataset.

Initial coding: The textual data is systematically coded line-by-line. This process involves assigning labels to segments of text that capture key concepts organised into *natural*, *cultural*, *constructural*, *emotions*, *actions*, *reflections*, and *Cities' PIDs*.

Theme generation: Related codes are collated and grouped to form potential themes. These themes represent broader patterns of meaning within the data. For instance, codes such as "feeling of safety" and "well-lit path," might be grouped under the potential theme of "Perceived Security and Comfort".

Theme review: The potential themes are rigorously reviewed against both the coded data and the entire dataset. This step ensures that the themes are coherent, distinct, and accurately represent the data. Themes may be refined, merged, split, or discarded during this iterative phase.

Defining and naming themes: Once refined, each theme is given a final, concise name, and a detailed definition is written to explain its essence and scope.

Producing the report: The final themes are used to construct an analytical narrative, supported by compelling data extracts.

The outputs of this stage are a comprehensive codebook that documents the coding process and a set of well-defined themes that represent the core content of the participants' narratives.

22.8.1.2. Stage 2: Semiotic and visual analysis of material data

This stage focuses on decoding the meanings embedded in the visual and material data generated by the tools group participants. The analysis aims to understand how participants construct and communicate meaning non-verbally and visually, providing direct access to their "cities' PIDs".

Analysis of cameras footage: The footage from the *Ca(p)mera*, *Following>Camera*, and *FloatingvCamera* is analysed as a visual text. The analysis focuses on identifying patterns in:

Gaze and attention (*Ca(p)mera*): What urban elements (e.g., architectural details, nature, social interactions) consistently capture the participant's visual focus?

Embodied interaction (*Following>Camera*): How does the participant's movement, posture, and gesture respond to the surrounding environment?

Process of Articulation (*FloatingvCamera*): What does the sequence of card sorting or the manner of mapping on the canvas reveal about the participant's cognitive process and priorities?

Analysis of card arrangements and canvas mappings: The final material artifacts (the card arrangements and completed canvases) are analysed as semiotic constructs. This involves identifying:

Symbolic associations: Which cards are consistently grouped together, revealing the participant's conceptual schema and tacit classifications?

Narrative structures: How do participants use the cards to construct a story of an "ideal experience"?

Metaphor and Metonymy: What unconscious desires and cultural logics are revealed through the visual and spatial metaphors created on the canvas, in line with the theoretical framework's adaptation of Lacan?

This semiotic interpretation provides a deep understanding of the participants' non-verbal and visual meaning-making processes, which is crucial for understanding their *cities' PIDs*.

22.8.2. Data analysis rigour and sensitivity

Several strategies are systematically employed throughout the process to ensure the analysis is credible, trustworthy, and robust.

22.8.2.1. The central role of triangulation

Triangulation is the cornerstone of the analytical strategy, as triangulation in *Desirable Cities* is the operational core of *Pragmaticism*. A shared medium (the *Holistic-Questionnaire*) plus the tools (cameras, cards, canvas, and tray), stages direct *city maker*

and *city user* dialogue and yields complementary traces (first-person, third-person, interactive and structured elicitation). Built-in contrasts (*tools group* vs. *control group*; *city makers* vs. *city users*; visual vs. verbal) convert that dialogue into analysable evidence of tool performance and expectation alignment:

Data triangulation: Findings from different data sources for the same participant are compared. For example, the analysis will check if a participant's verbal claim of liking "preferable spaces" is corroborated by *Ca(p)mera* footage showing them focusing on bustling social scenes.

Methodological triangulation: Findings from the immersive walks are compared with those from the structured talks to see how context influences expression.

Investigator triangulation: The researcher's ethnographic field notes and reflexive journal serve as a separate analytical lens to contextualise and challenge interpretations derived solely from the participants' data.

Person triangulation: The fundamental comparison between the perspectives of *city makers* and *city users*.

22.8.2.2. Researcher reflexivity and positionality

A reflexive journal is maintained throughout the analysis process. This practice allows the researcher to critically examine and document their own biases, assumptions, and potential influence on the interpretation of the data, thereby ensuring transparency and intellectual honesty in the analytical process.

22.8.3. Comparison Analysis List

The analysis operationalizes the comparative logic of the research design to evaluate the tools' effectiveness. This approach aligns with the principles of Qualitative Comparative Analysis (QCA), which seeks to identify the different "causal recipes" or combinations of conditions that lead to a particular outcome.

Primary comparison: *Tools group* vs. *control group*. The thematic analysis outputs for *Participant 91* (*city maker* with tools) are systematically compared against those for *Participant 92* (*city maker* without tools). The same comparison is conducted between *Participant 93* (*city user* with tools) and *Participant 94* (*city user* without tools). This is the primary method for assessing the impact of the research tools.

Secondary comparison: *City maker* vs. *city user*. The analysis compares the overall perspectives of the *city makers* (*P91* and *P92*) with those of the *city users* (*P93* and *P94*). This identifies points of convergence and divergence, addressing the "communication gap" highlighted in the thesis's grounding.

Tertiary comparison: Visual vs. verbal data. For the tools group participants (P91 and P93), the analysis compares the findings from their verbal transcripts with those from their visual and material data. This identifies where these data streams confirm, complement, or contradict each other, providing a more nuanced understanding.

22.8.4. Key Measurements

A set of key qualitative measurements is used to assess the output of each participant's engagement, structuring the comparative analysis and providing a consistent basis for evaluation.

Thematic richness and depth: Measures the number, complexity, and nuance of the themes identified in a participant's responses. A "richer" response moves beyond simple description to offer analytical, reflective, or emotionally detailed insights.

Holistic integration: Assesses the degree to which participants connect and integrate the urban environment's *natural, cultural,* and *constructural* dimensions in their responses. This directly measures the *holistic* thinking the *Desirable Cities* framework aims to foster.

Articulation of desire: Evaluates a participant's ability to articulate not just what they see or do, but what they expect to experience in the urban environment. This includes their emotional aspirations (expectations of feelings), activity-based aspirations (expectations of activities), and meaning-based aspirations (expectations of meanings), which collectively form their *cities' PIDs.*

Communicative efficacy: Measures the overall clarity, coherence, and structure of a participant's narrative about their expectations. Clarity in identifying the *natural*, *cultural*, and *built* elements of the environment, *holistically*; how these are articulated in *symbols* and *imageries*; and how the articulation of these perceptions and interpretations, triggers their psychological responses (*emotions*, *actions* and *ideas*) and aspirations (*expectations of feelings*, *activities* and *meanings* of their urban experiences), in short: their *cities' PIDs*. Coherence in identifying the relationship between their symbols and imageries with their psychological responses and aspirations. Structure in their logical articulation, and the capacity to make others understand their reflections.

Tools performances: This evaluates the overall help provided by the cameras, cards and canvas, to help participants identify and communicate *holistically* their expectations of desirable urban experiences.

These measurements will be applied across the comparative analyses to determine whether using the *Desirable Cities* tools correlates with higher scores in thematic richness, *holistic* integration, articulation of desire, and communicative efficacy.

22.9. Empirical testing's ethical considerations

Desirable Cities testing of tools within empirical experimentation involves careful ethical considerations. Given the involvement of diverse participant groups and potentially sensitive urban topics, the research adopts a robust ethical framework.

22.9.1. Consent and anonymity

Desirable Cities thoroughly informed the participants enrolled in the walks and talks about the study's purpose, procedures, and expected engagement. Informed consent will be obtained prior to participation, ensuring that individuals understand their role and the voluntary nature of their involvement. Anonymity and confidentiality will be guaranteed, for the participants, particularly considering their video recordings and personal narratives.

However, the walk's videos from the *Ca(p)mera* and *Following>Camera* will also record regular people within the field of research that are not enrolled in this research. Several authors had highlighted the tension between maintaining anonymity and providing rich, detailed descriptions (Bickford and Nisker 2015; Nespor 2000). The difficulty of ensuring anonymity in urban ethnography is discussed (Stein 2010; Joseph 2023), with some questioning whether anonymity always serves the interests of researchers and participants (Stein 2010). The complexities of obtaining informed consent in field settings are examined (Fessenden 2019; Hopper 1996). The conflict between ethnographic methods and the Institutional Review Board requirements has been addressed (Librett and Perrone 2010). Some researchers propose innovative approaches to consent and anonymity, such as collaborative processes (Joseph 2023) or rethinking place identification in qualitative inquiry (Nespor 2000). And the broader implications of unaware individuals are also considered (Mannay 2011).

Desirable Cities' solution to this challenge is addressed by the format in which the results are presented. The images of the recorded people caught on the *Ca(p)mera* and *Following>Camera* will be only presented on a printed version of the Thesis, scaled down into frames that fit the width of A4 paper, in which the printed testing has proven that the faces of background people are unrecognisable, keeping their privacy and anonymity.

22.9.2. Cultural sensitivity and respect

Studies have highlighted how different cultural groups perceive and use public spaces differently (Hardilla and Dewancker 2023; Low 1997; 2011). Public spaces are sites of both conflict and potential for intercultural interaction, with power dynamics influencing their use and design (Aptekar 2015; Watson 2013). Cultural differences, based on Hofstede's dimensions, affect ethical sensitivity towards various stakeholders in urban contexts (Blodgett et al. 2001). These studies collectively underscore the complexity of cultural dynamics in urban public spaces and the importance of culturally sensitive approaches in research and design. Given the multicultural context of Shanghai and the potential for varied interpretations of urban experiences, *Desirable Cities* made sure that the research team has received cultural competence training to ensure sensitivity to diverse worldviews and lived experiences (Garcia 1995; Knipper 2013), to guarantee that all interactions will be approached with cultural awareness and respect.

22.9.3. Right to withdraw and debriefing

In urban ethnography, this right intersects with the concept of "*right to the city*", emphasising citizens' involvement in shaping urban spaces (Breuer and Pierson 2021). Researchers face ethical challenges when managing both tangible and intangible data from withdrawn participants (Dahal 2024). The impact of withdrawal on inductive research methodologies is significant, potentially disrupting knowledge generation processes (Thorpe 2014). For *Desirable Cities* the participants sample is small, so any withdraw can be easily replaced for another participant fully committed, thus all the participants in this research retain the right to withdraw at any point in the research process without any consequence. A thorough debriefing follows participation, offering clarity, closure, and space to express concerns or feedback (Schaefer and Wertheimer 2010).

22.9.4. Data Security

Ethnographic studies involving video and audio recordings face significant data security challenges. Researchers must balance the need for data sharing with protecting participants' privacy and confidentiality (Dilger et al. 2019). Anonymisation is a key concern, as it was previously discussed and participants may self-anonymise during recordings (Mondada 2014). Guidelines for improving data security, including concrete strategies for the research team (Aldridge et al. 2010). The use of video recordings in ethnographic research requires careful consideration of data collection, analysis, and reporting issues. *Desirable Cities* applied data security management protocols to protect participant privacy. Video and audio recordings, interview transcripts, and related documents will be stored securely with limited access. All digital data will be encrypted and stored in password-protected systems.

22.9.5. Reflexivity and researcher preconceptions

Reflexivity is a critical practice in qualitative research, involving researchers' self-aware analysis of their role, biases, and influence on the research process (Finlay 2002; Orange 2016). It enhances research integrity and trustworthiness by examining intersubjective elements in data collection and analysis (Finlay 2002). Researchers must navigate various layers of self-awareness and social differences, using diverse tools to examine their positionality, power, and emotions (Luttrell 2019). Reflexive journals help document methodological decisions, track analysis, and consider researcher bias (Orange 2016). Positionality, a key aspect of reflexivity, reflects how researchers' social positions and experiences impact their research (Berger 2015; Bourke 2014). Researchers' epistemological assumptions influence reflexivity and can be practised individually or collectively (Corlett and Mavin 2018). Understanding positionality is crucial for incorporating a reflexive approach (Darwin Holmes 2020; Kleinsasser 2000; Luttrell 2019). *Desirable Cities* embraces reflexivity and avoids biases in analysing the relationships between *city makers* and *city users*. The aim is to extract participants' expectations from their *cities' PIDs*, which will be used to evaluate the tools' performance.

22.10. Empirical testing's methodology validity

To ensure the findings of *Desirable Cities* are robust and trustworthy, the methodology for the empirical testing is grounded in established principles of qualitative rigour.

While traditional quantitative metrics of validity and reliability are not directly applicable to qualitative inquiry, this study adopts the parallel framework of trustworthiness, encompassing credibility, transferability, dependability, and confirmability (Lincoln and Guba 1985). These principles are woven into the research design, from data collection to analysis. They are logically framed by the Peircean cycle of inquiry (*abduction*, *induction*, *deduction*) to ensure a systematic and transparent process.

22.10.1. Credibility

The credibility, or truth value, of the findings is enhanced through several strategic measures. The primary strategy is triangulation, which involves cross- verifying findings from multiple perspectives to build a comprehensive and well- supported interpretation. This research employs multiple forms of triangulation:

Data triangulation: Comparing data from different sources, such as the immersive walks, the structured talks, and the material artifacts created by participants (card arrangements and canvas mappings).

Methodological triangulation: Using a mix of methods, including ethnographic observation, in-depth interviews, and visual elicitation, to capture different facets of the urban experience.

Investigator triangulation: The researcher's ethnographic field notes and reflexive journal provide a distinct analytical lens to contextualise and challenge interpretations derived solely from participant data.

Person triangulation: The research design inherently compares the perspectives of different groups: the tools group versus the control group, and *city makers* versus *city users*.

Furthermore, "thick description" (rich, detailed accounts of the context, participant interactions, and researcher observations) ensures that the findings are deeply grounded in the empirical evidence, further bolstering their credibility.

22.10.2. Transferability

While qualitative research does not aim for statistical generalizability, it strives for transferability, allowing readers to assess the applicability of the findings to other contexts. This is achieved by providing a "thick description" of the research setting

(Xintiandi), the participants, the data collection protocols, and the analytical process. By offering a detailed and transparent account of the study's context and methodology, the research provides a solid foundation for others to judge the relevance of the findings to their settings or to replicate the study's logic in a different context.

22.10.3. Dependability and confirmability

Dependability, the qualitative parallel to reliability, is ensured through a transparent, logical, meticulously documented research process. The detailed protocols for data collection and the systematic, multi-stage approach to data analysis create a transparent audit trail, allowing an external reviewer to follow the research path from start to finish. Confirmability, which addresses researcher objectivity and bias, is strengthened through reflexivity. By maintaining a reflexive journal, the researcher critically examines their positionality, assumptions, and potential influence on the data, ensuring that the findings are a product of the participants' experiences rather than the researcher's preconceptions. Triangulation also plays a key role here, as the convergence of findings from multiple sources helps to confirm that a single perspective does not distort the interpretations.

Finally, Peirce's cycle of inquiry guides the entire methodological process. The research begins with abduction, where surprising observations from the preliminary studies lead to the formulation of a plausible hypothesis: didactical visual tools can enhance the communication of urban desirability. This is followed by deduction, where the logical consequences of this hypothesis are tested through the comparative research design (*tools group* vs. *control group*). The final stage is induction, where the empirical data is analysed to identify patterns and draw robust conclusions about the tools' effectiveness. This logical progression ensures that the research is not only trustworthy but also methodologically rigorous and scientifically sound.

22.11. Empirical testing's methodology scope

Every research design involves trade-offs, and it is essential to acknowledge the constraints and define the scope of this study's methodology. The choices made in this research were deliberate, prioritising depth of insight and methodological innovation over broad generalizability.

22.11.1. Subjectivity in qualitative research

This study embraces a qualitative approach, which inherently involves a degree of subjectivity in both data collection and interpretation. The researcher's presence during interviews and observations, as well as their analytical lens, can influence the findings. This limitation is actively managed through reflexivity, where the researcher maintains a journal to assess their biases and positionality throughout the research process critically. By making this process transparent, the study aims to account for subjectivity rather than ignore it, strengthening the confirmability of the research.

22.11.2. Sample size and generalisability

The empirical testing is designed as a proof-of-concept study and therefore utilises a small, purposive sample of four participants. This small-n design allows for a deep, nuanced, and fine-grained analysis of the tools' effectiveness, which would be impossible with a larger sample. However, a key limitation of this approach is that the findings cannot be statistically generalised to the broader populations of *city makers* or *city users*. Similarly, focusing on a single, unique field of research (Shanghai's Xintiandi) means that the specific findings about this location are context-bound. The study aims not to make universal claims about urban desirability but to validate the process and tools for eliciting it. The primary goal is the transferability of the methodology itself, rather than its specific results.

22.11.3. Technological limitations

The bespoke tools developed for this research, like the *Ca(p)mera*, *Emotion- naire Cards*, and *Structure-naire Canvas*, are prototypes. As such, they are inherently limited both technologically and in terms of design. For instance, the *Ca(p)mera*'s field of view is fixed and may not capture the full range of a participant's peripheral vision. The *Emotion-naire Cards* and *Structure-naire Canvas*, while carefully designed based on preliminary studies and the theoretical framework, represent a curated selection of urban elements and concepts, which may not encompass every possible perception or idea a participant might have. Including open-ended questions mitigates this, but the tools inevitably structure the interaction to some degree. These limitations are accepted as part of the iterative design process, where the insights gained from this testing phase will inform future refinements of the tools.

22.12. Empirical testing's methodology conclusions

The *Desirable Cities* methodology for empirically testing the tools is intentionally hybrid. It weaves together theoretical rigour with practical, field-based application to create a robust framework for inquiry.

22.12.1. Synthesis of theoretical and empirical insights

By weaving Peirce's semiotics, anthropology, and urban design into a multi- method approach, *Desirable Cities* examines how people inhabit, interpret, and envision city spaces. With walk-based raw impressions, creative talk sessions, and controlled tool testing, the structure bridges theoretical constructs with concrete user experiences (Flyvbjerg 2006). This synthesis ensures that the data collected is rich, contextually grounded, and systematically analysable through a coherent theoretical lens, moving beyond mere description to genuine explanation.

22.12.2. Contributions to urban desirability studies

This methodology moves the study of urban desirability beyond conventional metrics of liveability by providing a systematic way to access urban life's intangible, phenomenological dimensions. Tools like the *Emotion-naire Cards* or the *Structure- naire Canvas* prompt participants to articulate their *cities' PIDs*, making their tacit knowledge explicit. The data, triangulated with on-site observations, fosters an integrative model of urban development that values ecological, social, and emotional well-being alongside functional efficiency.

22.12.3. Methodological innovations

The synergy of unobtrusive cameras, visual-ludic prompts, and semi-structured interviews constitutes a significant methodological innovation. By capturing intangible emotional dimensions alongside factual constraints, *Desirable Cities* expands how future researchers might probe *holistic* city experiences. The structured comparison between a *tools group* and a control group provides a clear, logical basis for evaluating the efficacy of these innovative methods, offering a replicable design for future design- based research in urban studies.

22.12.4. Implications for future urban research and practice

Ultimately, this methodology paves the way for more inclusive, responsive, *holistic* and *interdisciplinary* city development. By demonstrating a viable process for identifying and communicating the nuanced expectations of both *city makers* and *city users*, it offers a practical pathway to bridge the often-cited gap between them. Integrating multi-disciplinary theory with field-based testing can refine design tools, highlight gaps between maker intentions and user realities, and champion cityscapes attuned to ecological, *cultural*, and emotional well-being. This foundation supports the subsequent results chapters, revealing how these methods concretely illuminate the question of urban desirability. *Part Six* reports the empirical findings and comparative analyses, assessing whether the tools increased thematic richness, *holistic* integration, and communicative efficacy in eliciting *Cities' PIDs*

FRENCH SUMMARY OF PART SIX

RÉSULTATS DES TESTS DES OUTILS DE *VILLES DÉSIRABLES*

23. RÉSULTATS EMPIRIQUES DES TESTS DES OUTILS

Pour permettre une comparaison rigoureuse, quatre participants ont été recrutés au sein du réseau de *Villes Désirables*, partageant un profil homogène : des hommes shanghaïens de 50 ans issus du même lycée et de la même université, appariés par rôle (créateur de villes / utilisateur de la ville) et par exposition aux outils (groupe outils / groupe témoin). Cette conception contrôle les différences de parcours afin que les divergences puissent être attribuées à l'utilisation des outils et au rôle. Les participants étaient : P91 (créateur de villes avec outils), P92 (créateur de villes témoin), P93 (utilisateur de la ville avec outils), et P94 (utilisateur de la ville témoin). Ceux qui utilisaient les outils se sont engagés avec aisance tandis que le groupe témoin a trouvé l'exercice comparativement plus difficile.

24. ANALYSE DES TESTS DES OUTILS DE *VILLES DÉSIRABLES*

Identification des Cities' PIDs et évaluation des attentes

Les réponses ont été codées par couleur pour mettre en évidence les éléments de l'environnement urbain (naturel=vert, culturel=orange, construit=violet) et les types de réponses (émotions=rouge, actions=jaune, réflexions=bleu). Ce double système de codage a révélé comment les acteurs vivaient l'environnement urbain en fonction de l'utilisation des outils. L'analyse a extrait les attentes en utilisant des associations métonymiques (+) et métaphoriques (=). Les créateurs avec outils se sont concentrés sur les détails architecturaux, la fierté professionnelle, les liens entre l'enfance et la carrière (Xintiandi + architecture classique = détente/vie communautaire). Les créateurs témoins ont mis l'accent sur la nostalgie et les souvenirs familiaux avec une spécificité limitée. Les utilisateurs avec outils ont souligné les commodités de style de vie, le symbolisme du statut, les préférences européennes (socialisation sophistiquée = plaisir). Les utilisateurs témoins ont insisté sur les souhaits de préservation de l'identité shanghaïenne.

Analyse comparative des résultats des données verbales

Convergence des créateurs de villes (phase de marche) : Créateurs et utilisateurs visitent tous deux mensuellement Xintiandi, et le caractérisent comme un quartier mélangé d'ancien et de nouveau. Ils lisent le site à travers les phases/musée/ lac/shopping, et distinguent le Shikumen comme leur élément favori avec attachement/ nostalgie.

Divergence des créateurs de villes (phase de discussion avec outils) : le créateur P91 a catégorisé quatre groupes multi-constituants faisant des renvois croisés entre la météo, les éléments verts, les chemins, les activités sociales — une vision systémique qu'il serait peu probable de restituer de mémoire seule. Il a explicitement listé les éléments naturels / culturels / construits assimilés (« mappés ») aux émotions / actions / idées. P92 a offert une division binaire (« ancien et nouveau») avec une couverture limitée, répondant fréquemment « Je ne sais pas » aux questions de contexte/coût.

Convergence des utilisateurs de la ville (phase de marche) : les deux utilisateurs de la ville, décrivent tous deux un lieu à la mode conservant des indices traditionnels. Ils mettent en exergue le lac/musée/résidentiel de luxe/centre commercial, et notent la pression touristique. Ils apprécient le confort apporté par les arbres.

Divergence des utilisateurs de la ville (phase de discussion avec outils) : L'utilisateur P93 a construit quatre groupes complets couvrant tout le spectre à travers les Emotion-naire Cards, livrant une journée séquencée mêlant éléments urbains et réponses psychologiques. L'utilisateur P94 a donné une réponse peu claire (il a répondu « pas très clair ») ; il a offert un souhait d'identité culturelle sans couverture systématique, et a montré de multiples incertitudes à travers les questions.

Évaluation comparative des résultats visuels

La Ca(p)mera (pilotée par le participant) a capturé des pics chargés de valeur où les participants ont choisi de s'attarder. Les cadres pris par le créateur P91 montraient des gros plans de textures et de jonctions révélant une curiosité disciplinaire — l'art de la composition menant à l'apprentissage et aux principes. Les cadres relevés par

l’utilisateur P93 ponctuaient les nœuds de commodités cartographiant une urbanité axée sur la consommation.

La Following>Camera (pilotée par le chercheur) a capturé des séquences continues plus larges montrant plus globalement la syntaxe spatiale et la circulation, et permettant de compléter les pics individuels avec la continuité urbaine. La FloatingvCamera a documenté les arrangements de cartes sur la table montrant les groupes compacts de pensée conceptuelle du créateur P91 par rapport aux domaines taxonomiques orientés utilisateur de l’utilisateur P93, rendant les structures cognitives immédiatement lisibles.

Forces et faiblesses des outils

Les outils basés sur la caméra ont montré que la Ca(p)mera excellait à révéler la saillance personnelle à travers les points d'arrêt, mais souffrait d'un biais de sélection en faveur des pics par rapport aux flux. La Following>Camera offrait des transects standardisés pour la comparaison mais risquait de sous-enregistrer la signification personnelle. La FloatingvCamera rendait co-présente la couverture de tout le champ mais ne capturait qu'un état figé, manquant le processus de formation.

Les Emotion-naire Cards ont facilité un rappel complet et ont servi de catalyseur de liens soutenant le récit émotion-action-idée, bien que leur risque ait été d’induire des biais de sur-positivité à partir des catégories utilisées.

Le Structure-naire Canvas a mis en lumière les relations gouvernement- promoteur-concepteur-constructeur avec les ressources et les coûts, et a encouragé l'ancrage temporel. Mais il a imposé une charge cognitive nécessitant une connaissance des politiques/de l'économie.

Le Terms-naire Tray a fourni une couverture rapide des modalités sensorielles souvent ignorées avec un vocabulaire précis, bien que risque ait été ici d’établir des validations superficielles du fait des cases à cocher.

***Terms-naire Tray* et outils de sélection basés sur des choix simples** : Fournissent une couverture sensorielle rapide avec un vocabulaire précis, renforcent la confiance des participants. Risquent une mentalité de case à cocher et un aplatissement

des nuances.

Conclusions

La phase de marche a convergé fortement tandis que la phase de discussion a révélé une divergence marquée entre les groupes outils et témoin. Les Emotion- naire Cards et le Structure-naire Canvas ont constamment élargi la couverture et la cohérence, transformant les impressions tacites en Cities' PIDs explicites et cartographiables. Il est donc clair que les outils comptent énormément, le plus, dans la phase de discussion.

Les perspectives liées au rôle persistent et sont clarifiées : les créateurs parlent en styles / systèmes / logiques de projet ; les utilisateurs en styles de vie/sociabilité/ identité. Les outils ont amplifié chaque perspective — l'enregistrement de P91 est devenu un inventaire de conception ; celui de P93 une carte de domaines d'usage.

Le visuel et les mots se révèlent complémentaires : la Ca(p)mera montre les pics, la Following>Camera les flux, la FloatingvCamera la cognition ; la transcription fournit le temps/la causalité/la politique/l'identité. Seule la combinaison a produit des preuves exploitables.

Le protocole triangulé — marche (Ca(p)mera + Following>Camera) → discussion (Cards + Canvas + FloatingvCamera) → complément (Terms-naire Tray) — atténue les angles morts, produisant des données comparables et auditables. La boîte à outils de Villes Désirables fait remonter de manière fiable les éléments naturels- culturels-construits en les liant à des chaînes émotion-action-idée, améliorant la pertinence de la conception pour les créateurs et la cartographie de l'expérience pour les utilisateurs.

PART SIX.

DESIRABLE CITIES' TOOLS TESTING RESULTS

25. EMPIRICAL FINDINGS FROM *DESIRABLE CITIES*' TOOLS TESTING

25.1. Introduction to the tested tools and participants' engagement

To enable a rigorous, like-for-like comparison analysis of *Desirable Cities*' tools, four participants were recruited from the *Desirable Cities* network who share a homogeneous profile: all are 50-year-old Shanghainese men educated at the same secondary school and University: *Shanghai University*; two study architecture and two finance. Participants were paired by role (*city maker* and *city users*) and by tool exposure (*tools group* and *control group*) to support both within-role and cross-role comparisons: *city makers*: *P91* (with tools) and *P92* (without tools), and *city users*: *P93* (with tools) and *P94* (without tools). This design controls for background differences so that observed divergences can be attributed to tool use and role; correspondingly, *P91* and *P93* engaged with the tools smoothly and enjoyed the process, whereas *P92* and *P94*, who completed only the questionnaire without additional support, found the exercise comparatively harder. See *Image 159*: *P91-P94's walks*

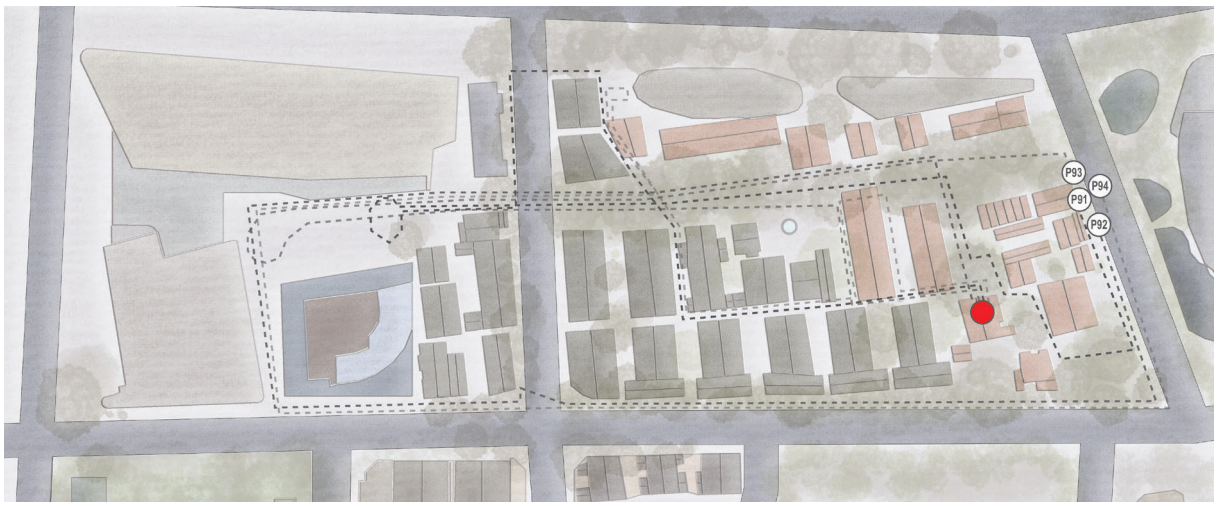


Image 159. *P91-P94's walks.*

25.2. *Participant 91* (with tools)

25.2.1. Verbal data (Participants' answers transcriptions)

QCM-W-01: How often do you come to Xintiandi?

P91-QCM-W-01: "*Every month… I come one or two times*".

QCM-W-02: Please share with me your connection with Xintiandi.

P91-QCM-W-02: "*It represents 1930s Shanghai. I like it!*".

QCM-W-03: As an architect, what do you think was the original purpose of Xintiandi?

P91-QCM-W-03: "*As an architect… I think the purpose is to be a successful real estate development*".

QCM-W-04: And what do you think users think about Xintiandi?

P91-QCM-W-04: "*I think they think it's a mixer of old and new. Xintiandi makes people relax.*

Actually, Xintiandi feeds the imagination of the people. It's like a Lilong feeling, people can enjoy together. It is not like a shopping mall.

People have coffee and drinks, and eventually they can buy something.

The trees provide shade, and the human scale helps people feel they are in a lane, having a community life".

QCM-W-05: As we walk through this place, please share with me your thoughts on Xintiandi's space elements.

P91-QCM-W-05: "*For me, the first image is the red brick building. It is beautiful. The communist party first meeting was there.*

I think people like this place because all the building looks residential.

They put the restaurants on the ground floor, which invites people to feel that they are in a lane, in a neighbourhood, not a shopping mall.

I really like these lanes, balconies, and windows.

I think they did a great job of making this space look interesting. These are Phase Two and Phase Three.

But I like Phase One the most.

I think the most beautiful street is the left side.

Because the façade is a very typical Shikumen building. The balcony is made of wood, which is very nice as well.

Also, the trees. I like these trees because they improve the street. You feel you are in the French Concession.

This mix of bricks is because Chinese people like grey bricks, but around 1900, many buildings used orange brick in England, especially Victorian Style terrace houses. So, when the British started to make residential buildings in Shanghai, this mix of grey and orange bricks emerged.

But I have a question: why do they use arches like this? A bit of Italian Classic Style.

Oh! these tiles are very interesting. These tiles are typical Chinese Style.

The small tiles, and I don't think all the roofs are like this. The red one is like English Style, but this is Chinese Style. This is very interesting!

They used stone, a kind of granite. Different from usual details. Western culture and Chinese culture together".

QCM-W-06: What are your favourite parts of Xintiandi? Why?

P91-QCM-W-06: "*The mansion, Xintiandi No.1. Very special architecture*".

QCM-W-07: What was your favourite experience ever in Xintiandi? Why?

P91-QCM-W-07: "*Well, same building: Xintiandi No.1. Once I was invited by Shui On Land to have a party in this building. A really nice party, with artists, famous designers, and government people. My best experience so far in Xintiandi*".

QCM-T-01: How will you organise the different elements composing the entire Xintiandi? Why?

(This question was answered using the tool: *Emotion-naire Cards*)

(The details of the group's content, shown within brackets, were added using the FloatingvCamera and the interviewer's notes)

P91-QCM-T-01: "*Things I like (including, weather, green features, animals, building, urban furniture, and social activities), things my family like (including weather, green features, water features, things, and social activities), riverside lifestyle (these are things that although can be found in Xintiandi, the participant believe are more related to other areas of the city, including weather, paths, types of transport, and social activities), and*

Xintiandi lifestyle (including nodes, paths, and social activities)".

QCM-T-02: Which of all these elements are your favourites? Please describe a desirable -ideal- experience you would like to have here.

(This question was answered using the tool: *Emotion-naire Cards*)

P91-QCM-T-02: "*In the morning, on a sunny day, I'm in my house. I will walk to a coffee shop, then walk my dog and let him run in the park between the bushes, trees and flowers until the weather changes. When it became cloudy, I would go home to read and play on the phone until the wind and rain started. When it's raining, I like smoking and going to exhibitions, because there are less people. So, I will go to the gallery in Xintiandi No.1 until the sun pops up again and the rainbow comes. After, I will walk back home through the grass to have dinner and eat noodles, which is my favourite dish; until the moon pops up and I will go to sleep*".

QCM-T-03: Could you please describe yourself as an architect?

(This question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-03: "*I think I'm a traditional architect*".

QCM-T-04: Could you please describe Xintiandi's public space?

(This question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-04: "*Friendly and comfortable scale*".

QCM-T-05: Could you please explain how you know about Xintiandi?

(This question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-05: "*Because I am Shanghainese*".

QCM-T-06: Could you please talk about your experiences in Xintiandi, professionally?

(This question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-06: "*Exploring the mix of architecture and culture between 1930s and 2010s*".

QCM-T-07: Could you please explain your relationship with Xintiandi?

(This question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-07: "*They are my client*".

QCM-T-08: Could you please talk about your context in relation to being an

architect?

(This question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-08: "*In my childhood, I grew up in the Zhongshan Park area, and I played on Yuyuan Road. So I became very familiar with well-designed buildings, like Xintiandi's mansion. Also, the school I studied at was like this building. Very beautiful. At the beginning, I thought it was normal, but after 15 years, I realised these buildings were really nice and special, even if some were deteriorated and poorly kept. I guess that's why I became an architect*".

QCM-T-09: Could you please talk about the context of Xintiandi?

(This question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-09: "*It is the Lilong where the Communist Party first met, it is in the city centre of Shanghai, and the government wanted to start to improve the image of the city with better and modern developments*".

QCM-T-10: Could you please talk about the context of your relationship with Xintiandi?

(This question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-10: "*I like the classical elements. Xintiandi has many classical elements. If you see the cards I chose, I prefer the trees, the flowers, and the classical buildings from the Xintiandi's mansion to humble Lilong. I like these people's environments with nature and classical buildings, that's why I am a traditional architect. And this is like the atmosphere of my childhood, with the traditional streets and courtyards with trees and shade, making the streets and courtyards very comfortable and beautiful to enjoy life outdoors. Back then, we didn't have air conditioning, now it's the same, we are here outdoors without AC*".

QCM-T-11: Could you please identify the *natural*, *cultural*, and *built* elements of Xintiandi's public spaces?

(This question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-11: "*Natural. I think it's shade. The trees, the shadow they provide, the breeze that goes through these courtyards and lanes.*

Culture is provided by the space. These courtyards always remind me of when I was in my childhood, and my friends and I shared stories, sitting outside. We were reading different stories: scary stories, I remember a story about Russia, and about the British

and French concessions. We spent two to three hours sharing these stories we read or heard, from 6:30 to 9:30. It is a neighbourhood.

Architecture. It is the red brick, columns, balconies, gates, and the courtyard".

QCM-T-12: Could you please tell me how these *natural*, *cultural*, and built elements of Xintiandi influence your emotions, actions, and ideas?

(This question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-12: "*The natural elements are shade, trees, and life outside. These make me feel peaceful, the emotion is peace; the action is relaxing; and the idea is growth.*

In culture, it is sharing stories and reading. So, the emotion is happiness, good stories make me happy; the action is exploring; and the idea is adventure.

The built elements are mainly bricks and balconies. These make me feel the art of composition, artistic feeling; the action it produces is learning and studying it; the ideas I get are the principles of architecture".

QCM-T-13: Could you please extend your thoughts about the contextual references related to you, Xintiandi, and your relationship with Xintiandi from a *natural*, *cultural*, and material point of view?

(This question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-13: "*My natural references are open spaces, like in my childhood, and the change of weather, like in my cards' story. And for Xintiandi, I think the natural reference is the wind, how Xintiandi channels the soft wind to the open spaces for people to do activities outdoors in their interconnected plazas and lanes, with trees providing shade.*

My cultural references are the last 100 years of China. I don't like the history of China during the dynasties. For Xintiandi, the cultural references are Hong Kong's developments, together with Shanghai's Lilong.

My architectural references are mainly from 1910 to 1935 (he likes them). And the architectural ideas of Xintiandi were similar to those of China for the Olympic Games in 2008; probably until 2012, when the ideas changed".

QCM-T-14: City spaces are developed by policymakers, real estate developers, designers, and builders. Based on your professional experience, please talk about each of these groups.

(This question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-14: "*The governments are driven by power, the real estate developers by profits, the designers by dreams, and builders are very hard-working people*".

QCM-T-15: What do you think were the original objectives and final outcomes for each of these four professional groups?

(This question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-15: "*For their objectives, the governments wanted to change the image of the city; to find a way to rebuild the city; the real estate developers wanted to find a good opportunity to make a profit at that time; the designers wanted to participate in a unique project; and the builders wanted to complete their work.*

For their outcomes, the high price of Xintiandi's residential project helped the governments to increase the value of the land for future developments in the city centre of Shanghai; it also helped Shui On Land to become very successful in the market; the result of the designers was the prestige and design style that helped them to win new contracts; and for the construction company was the same: It became a project to feel proud of and it definitely helped them to get more jobs".

QCM-T-16: What do you think were the *natural*, *cultural*, and material resources and tools these policymakers, real estate developers, designers, and builders utilised to develop Xintiandi?

(This question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-16: "*I think the cultural resource of the governments is also their power, in addition to that, their new knowledge of the free economic model allowed Xintiandi to be materialised the way it is. For real estate developers, the cultural resource was their experience in the Hong Kong mixed-use projects, which they implemented in Shanghai. For the designers, the cultural resource was their international background, which was not common in Shanghai at that time. And for the builders was their culture of hard work to own their salary and economic growth*".

QCM-T-17: Based on their original objectives, outcomes, resources and tools, what do you think were the ecological, *cultural*, and material costs for policymakers, real estate developers, designers, and builders to develop Xintiandi?

(This question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-17: "*At that time, for the governments, the material cost was cheap*

because it was one of the first projects of the city. Same for the developer, they catch the economic wave at the very beginning. For the designer, the material was very profitable because salaries were low and design fees were high, as there was little competition. And for the construction company, it is also very profitable, for the same reasons".

QCM-T-18: What do you think were the ecological, *cultural*, and material costs for understanding the policymakers, real estate developers, designers, and builders within the context of Xintiandi?

(This question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-18: "*I think the Shanghai government spent a lot of time and resources to understand and plan the development of Shanghai and to allow all these new developments, within the free market, to improve and develop Shanghai*".

QCM-T-19: What do you think were the ecological, *cultural*, and material costs for training the policymakers, real estate developers, designers, and builders within the context of Xintiandi?

(This question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-19: "*Yes, the communist party have a system for training the city governments to understand the planning and economics of cities. How to invest in balancing the environment, promoting the Chinese culture and making cities' infrastructure better. For the rest, they learn from study and the experiences in the free market*".

QCM-T-20: What do you think were the ecological, *cultural*, and material costs of developing Xintiandi?

(This question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-20: "*In addition to the cost of the project, there is also the government's cost, to develop the infrastructure, like the metro lines, and the cost of making the land available for the new development by relocating or paying off old residents*".

QCM-T-21: What do you think were the ecological, *cultural*, and material costs of Xintiandi's maintenance?

(This question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-21: "*I think every year Xintiandi will charge the management fees to the commercial venues and the residents so that they can pay for the cost of maintenance*".

QCM-T-22: What do you think were the ecological, *cultural*, and material costs for

communicating with Xintiandi's residents, commuters, and visitors?

(This question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-22: "*I don't know*".

QCM-T-23: What do you think were the ecological, *cultural*, and material costs of understanding Xintiandi's residents, commuters, and visitors?

(This question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-23: "*I don't know*".

QCM-T-24: Xintiandi is used by residents, commuters, and visitors. Could you please tell me what you think their expectations of Xintiandi are from a natural, social, and material point of view? And how do you deal with this kind of expectation as an Architect?

(This question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-24: "*The people who live in Xintiandi are rich people, highly-paid working people, and government officials. Business and rich people. What they want is to live in a prestigious location in the city centre*

The people who work here, I think, are from financial and international companies, as well as people who work for luxury brands and food and beverage. They want to have a good job, a good salary.

Xintiandi is visited by people from all over China and also foreign countries.

They want to have an interesting time. Also, at weekends, people who live in the first ring of Shanghai come to Xintiandi to experience the lifestyle of those who live here. As an architect, the people who work or visit Xintiandi are not my clients, because I focus on residential projects, so I deal with developers and private clients. In Xintiandi, these private clients are mainly young people, like movie stars, second-generation successful clients".

QCM-T-25: Is there anything else you want to add about Xintiandi?

(This question was answered using the tool: *Terms-naire Tray*)

P91-QCM-T-25: "*Within the natural elements, the seasons are always good in Xintiandi, whether is summer, fall, winter or spring; thus, the weather is also nice whether it is sunny, cloudy, rainy, or windy; I like the temperature around 15°C, 20°C, and 25°C; the best times for Xintiandi are afternoon, late afternoon, and evening; and I like very*

much dogs, cats, grass, bushes, flowers, and trees. Within the cultural elements, the social density is usually many people; the atmosphere is relaxed, peaceful, cultural, and artistic; the music is usually from the bars and restaurants; and the smell is nice from the restaurants and bars. Within the constructural elements, I associate with Xintiandi's open-air public spaces: squares, terraces, and lanes; the visual references are Landmarks like Langham Hotel; and the most common transportation systems used are taxi and Didi. All these components make me feel happy and comfortable in Xintiandi, and when I am here, I like to walk, sit, eat, drink, design (participant added this activity using the 'plus' tail), and smoke."

25.2.2. Visual data (*Ca(p)mera* and *Following>Camera* visual frames)



Image 160. *P91 - Ca(p)mera's and Following>Camera's frames A.*

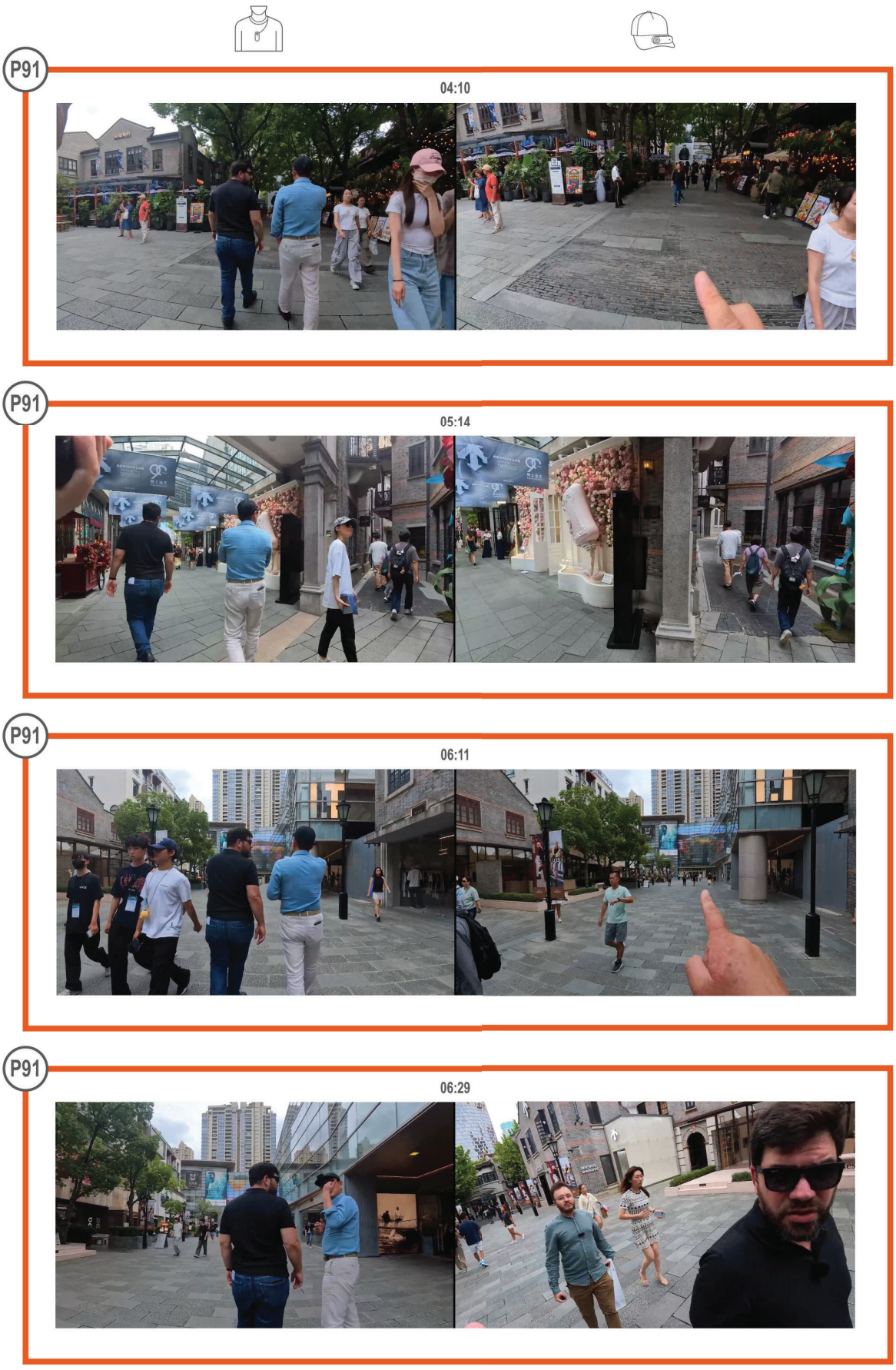


Image 161. *P91 - Ca(p)mera's and Following>Camera's frames B.*

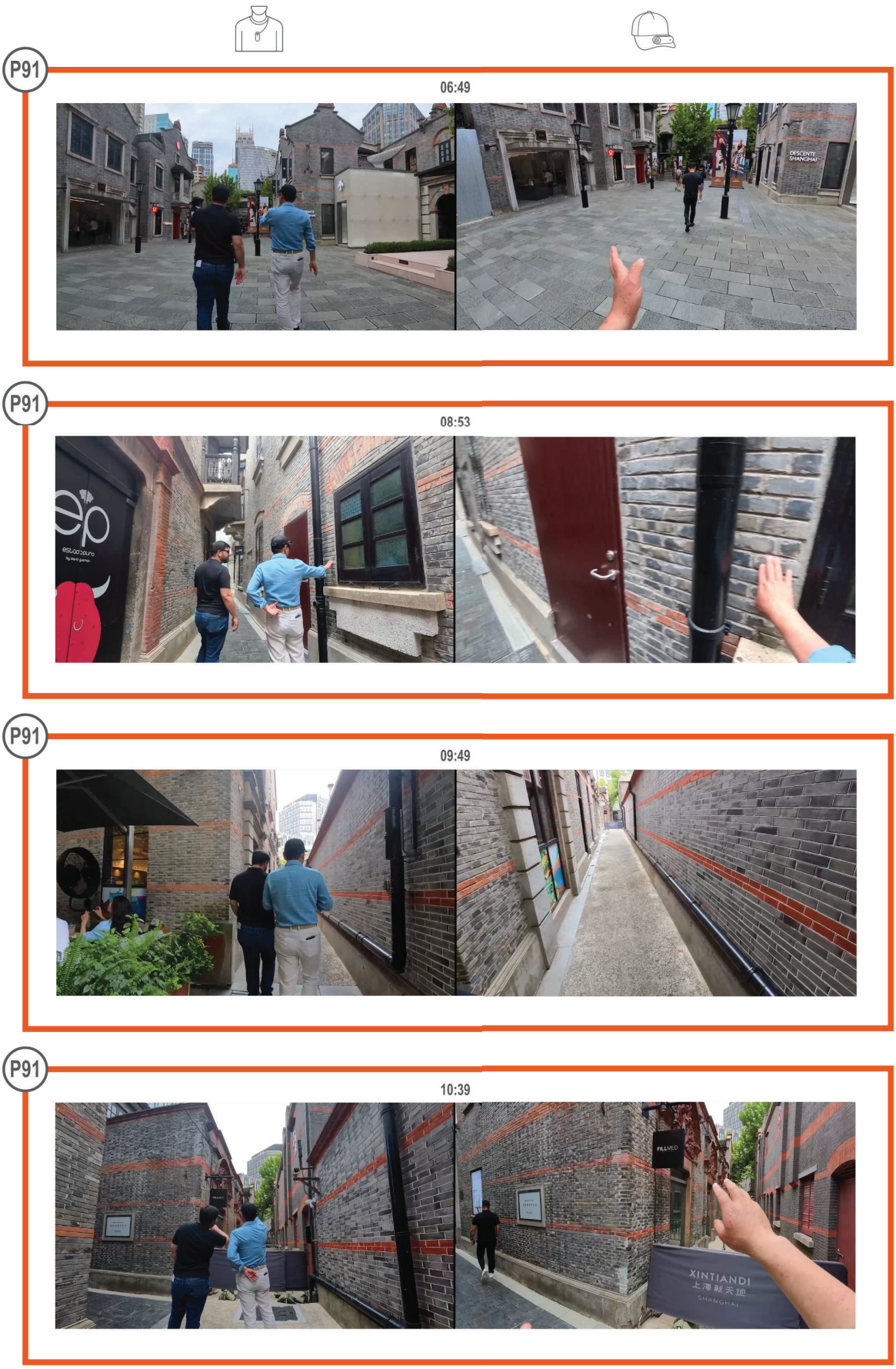


Image 162. *P91 - Ca(p)mera's and Following>Camera's frames C.*

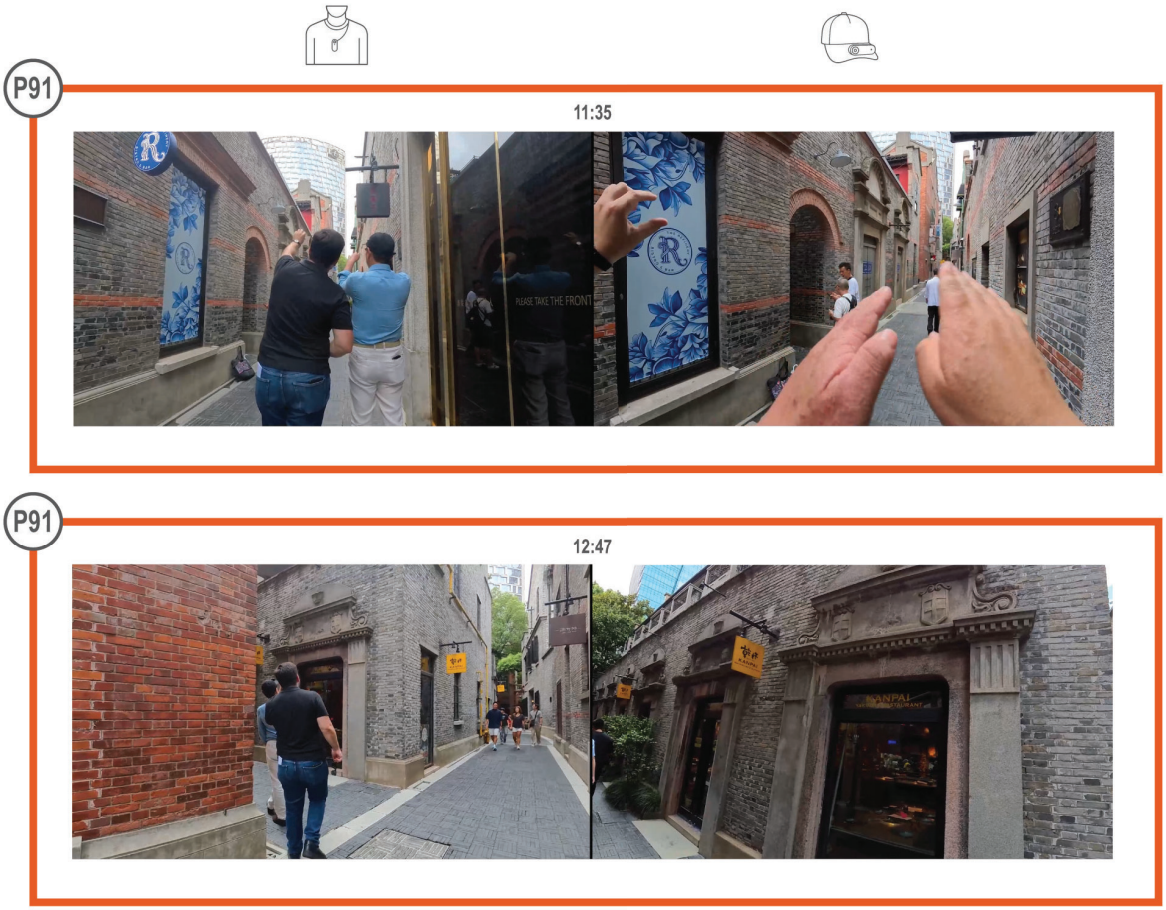


Image 163. *P91 - Ca(p)mera's and Following>Camera's frames D.*

25.2.3. Visual data (*FloatingvCamera* visual frames)



Image 164. *P91 - FloatingvCamera's frames A.*

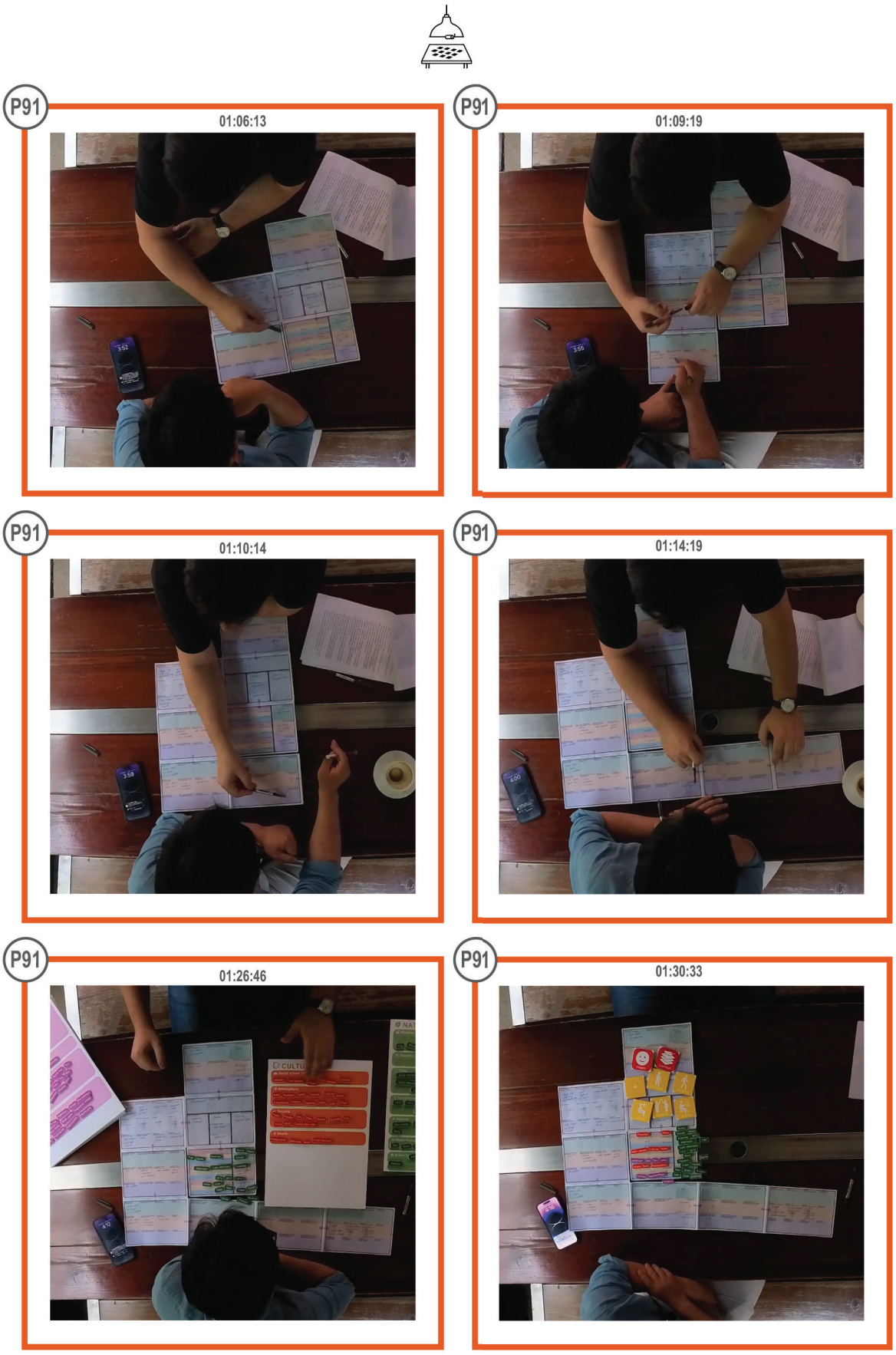


Image 165. *P91 - FloatingvCamera's frames B.*

25.2.4. Ethnographic data (Interviewer's notes)

P91-QCM-W-04:

When he said, "It's like a ***Lilong feeling***", he was referring to **outdoor community culture**. And "***It is not*** like a ***shopping mall***" he was referring to **indoor commercial culture**.

When he said, "the ***human scale***", he referred to **buildings**.

P91-QCM-W-05:

When he said, "the ***red brick building***" is "***beautiful***", he **likes it**.

"They are in a ***lane***", he means a **Lilongs**, and "the ***most beautiful street*** is the ***left side***" he is referring to **Xingye Pedestrian Road** and he **likes *it***.

When he talks about the "***mix***" it is about the **brick colours**. He adds that **this mix** of "***Victorian Style***" and **Chinese Style** allows the **emergence** of **Haipai Style**. He shows **curiosity** to **know** "***why*** do they ***use Italian Classic Style***" on the windows' and doors' arches.

P91-QCM-W-06:

"The ***mansion, Xintiandi No.1***", is his favourite building; he **likes it very much**.

P91-QCM-W-07:

When he talks about "***Shui On Land***" he is referring to **Xintiandi's real estate developer**. He is **proud** that **they** **invited** him, together with "***famous artists, designers, and governments***", to a **private party**. **This** **made** him **feel** like part of **Shanghai's elite**.

P91-QCM-T-01:

His groups: 1) "***Things I like***" include: ***weather***, ***green features***, ***animals***, ***building***, ***urban furniture***, and ***social activities***; 2) "***things my family like***" include: ***weather***, ***green features***, ***water features***, ***things***, and ***social activities***; 3) "***riverside lifestyle***" these are things that although can be found in ***Xintiandi***, the participant **believe** are more related to other areas of the city, including ***weather***, ***paths***, ***types of transport***, and ***social activities***; and 4) "***Xintiandi lifestyle***" include: ***nodes***, ***paths***, and ***social activities***.

P91-QCM-T-02:

His dream of a **home** in **Shanghai** is a **small unit** in a **Shikumen**.

P91-QCM-T-07:

He **is very proud** that **Shui On Land** is one of his **clients**. P91-QCM-T-08:

He **talks about** "***Yuyuan Road***", a **historical street from the 1930s**, and about "***Xintiandi's mansion***", which is **Xintiandi No.1**

P91-QCM-T-10:

When he talks about "***classical elements***", he refers to **architectural styles**.

P91-QCM-T-11:

He **remembers** with **pleasure** the time when he "***spent*** two - three hours ***sharing stories***" with **his childhood friends**, he **likes it.**

Architecture. It is the ***red brick, columns, balconies, gates,*** and ***the courtyard*****".**

P91-QCM-T-13:

He is **very clear about** his **favourite cultural** references: China's "***last 100 years***" of history and **favourite constructural** references: classical styles from "***1910 to 1935***". He **likes both very much**.

P91-QCM-T-15:

For him**,** the **value of the land** "***increased***", which **helped** the governments **increase** their **revenues** and **reinvest** them in **Shanghai's infrastructure**, such as the **metro system**, the **Expo project**, etc.

P91-QCM-T-17:

When he said the developer "caught the ***economic wave at the very beginning***", he was referring to the high **profitability** of Xintiandi.

P91-QCM-T-18:

When he says, "the Shanghai government ***spent*** a lot of time and resources", he is only referring to **material costs**.

P91-QCM-T-20:

He also sees only **material costs in *developing infrastructure*** and **cultural** and **material costs** for "***making*** the ***land available*** for the ***new development***".

25.3. Participant 92 (without tools - control group)

25.3.1. Verbal data (Participants' answers transcriptions)

QCM-W-01: How often do you come to Xintiandi?

P92-QCM-W-01: "*Recently, not very often, maybe once a month. Before, when I was younger, I came more frequently*".

QCM-W-02: Please share with me your connection with Xintiandi.

P92-QCM-W-02: "*I used to live nearby. For me, it is a fashionable place, but it still keeps some traditional buildings*".

QCM-W-03: As an architect, what do you think was the original purpose of Xintiandi?

P92-QCM-W-03: "*It was to show Shanghai's culture, mixing modern and traditional elements. It's also a symbol for outsiders*".

QCM-W-04: And what do you think users think about Xintiandi?

P92-QCM-W-04: "*A mix of functions like bars, restaurants, and shops.*

A fashionable place.

A mix of spaces, not purely old, not purely new.

A meeting place to have fun".

QCM-W-05: As we walk through this place, please share with me your thoughts on Xintiandi's space elements.

P92-QCM-W-05: "*This street is very busy because it goes to Huaihai Road. Here is the museum of the Communist Party first meeting.*

Originally was only here on the right, this small building, but many people wanted to visit it, so a couple of years ago, the government built this new museum. So, now, it has a bigger capacity, and many people are in this lane moving between the two buildings and taking pictures in between.

Now this lane looks like an outdoor museum.

That lake was built ten years ago. I think it is a very nice part for the people who live here.

There was Phase One, this is Phase Two, and those are Phases Three, Four, and Five. Very expensive residential projects. Very good location. I like it!

Here is the shopping mall. Typical shopping mall.

But this is the street of shops. I like this very much! This way, we can go back to Phase One.

You can see that all these bars and restaurants are very busy. Very popular This part around the fountain feels more like a touristic spot than a local place These trees are beautiful, now in summer give shade, in winter the leaves fall

so the sun can pass through and warm. Very comfortable.

From here to there are more shops because it is closer to the busy road This is a very traditional and detached villa. There are not many like this. These are Lilong Shikumen. My favourites. I like these a lot!".

QCM-W-06: What are your favourite parts of Xintiandi? Why?

P92-QCM-W-06: "*The Shikumen houses, because they remind me of my childhood (nostalgia)*".

QCM-W-07: What was your favourite experience ever in Xintiandi? Why?

P92-QCM-W-07: "*Every Christmas I took my son to Xintiandi, we had ice cream at Häagen-Dazs, and we'd talk about things beyond school… But he had grown up, so we do these things less*".

QCM-T-01: How will you organise the different elements composing the entire Xintiandi? Why?

P92-QCM-T-01: "*I will split it into 'old and new', and also the places I like*".

QCM-T-02: Which of all these elements are your favourites? Please describe a desirable -ideal- experience that you would like to have here.

P92-QCM-T-02: "*Sleep until late, grab brunch in the afternoon and a coffee, chatting with friends into the evening and then going to a live-house; just a relaxed day*".

QCM-T-03: Could you please describe yourself as an architect?

P92-QCM-T-03: "*I love architecture; when it comes to fully mastering it, I feel I'm not quite there*".

QCM-T-04: Could you please describe Xintiandi's public space?

P92-QCM-T-04: "*Beyond basic functions, it has created a place people like to go, something that resonates with the public's subconscious*".

QCM-T-05: Could you please explain how you know about Xintiandi?

P92-QCM-T-05: "*My wife told me. We went for a walk at night when it had just been completed, and there were a few people*".

QCM-T-06: Could you please talk about your experiences in Xintiandi, professionally?

P92-QCM-T-06: "*Case study for how to do Lilong renovations*".

QCM-T-07: Could you please explain your relationship with Xintiandi?

P92-QCM-T-07: "*Whenever I think of it, I want to go for a walk there. Work often narrows my thinking, and when I go to Xintiandi, it makes the space and time feel more open*".

QCM-T-08: Could you please talk about your context in relation to being an architect?

P92-QCM-T-08: "*I don't know*".

QCM-T-09: Could you please talk about the context of Xintiandi?

P92-QCM-T-09: "*It was a prime location that needed to be renovated*".

QCM-T-10: Could you please talk about the context of your relationship with Xintiandi?

P92-QCM-T-10: "*My wife and I are architects, and we wanted to see the project after completion*".

QCM-T-11: Could you please identify the *natural*, *cultural*, and *built* elements of Xintiandi's public spaces?

P92-QCM-T-11: "*Culturally, it meets the collective subconscious of Shanghainese, as it expresses their identity. For the natural, if humans are part of nature, then human-made things can become part of the natural system when they endure. Xintiandi has embedded itself into that system; its ability to continue makes it, in a sense, more natural*".

QCM-T-12: Could you please tell me how these *natural*, *cultural*, and *built* elements of Xintiandi influence your emotions, actions, and ideas?

P92-QCM-T-12: "*When I was younger, I even wanted to live here: to buy a home, partly to express a sense of uniqueness. Xintiandi is perceived as a high-end place. That wish has softened with time, but it's still there*".

QCM-T-13: Could you please extend your thoughts about the contextual references

related to you, Xintiandi, and your relationship with Xintiandi from a *natural*, *cultural*, and material point of view?

P92-QCM-T-13: "*I still don't know how to explain the context*".

QCM-T-14: City spaces are developed by policymakers, real estate developers, designers, and builders. Based on your professional experience, please talk about each of these groups.

P92-QCM-T-14: "*Government needs a vision, not just a political task.*

Developers must work out a sustainable, profitable model.

Designers have ideas for the developer's requirements.

Builders and suppliers raise craftsmanship and product quality to match the project's standard".

QCM-T-15: What do you think were the original objectives and final outcomes for each of these four professional groups?

P92-QCM-T-15: "*Government pursued a representative image for Shanghai. Developers pursued strategic opportunities and profitability.*

Designers pursued professional ambition.

Builders and suppliers pursued successful participation in a landmark project".

QCM-T-16: What do you think were the *natural*, *cultural*, and material resources and tools these policymakers, real estate developers, designers, and builders utilised to develop Xintiandi?

P92-QCM-T-16: "*Government resources ultimately are coming from central policy direction.*

Developers have capital, often diversified, including overseas channels. Designers have a professional brand and international links.

Builders have craft capacity and supply chains capable of higher quality".

QCM-T-17: Based on their original objectives, outcomes, resources and tools, what do you think were the ecological, *cultural*, and material costs for policymakers, real estate developers, designers, and builders to develop Xintiandi?

P92-QCM-T-17: "*There are significant training costs in time and money, though I can't specify them precisely*".

QCM-T-18: What do you think were the ecological, *cultural*, and material costs for understanding the policymakers, real estate developers, designers, and builders within the context of Xintiandi?

P92-QCM-T-18: "*This is difficult to define clearly in my view*".

QCM-T-19: What do you think were the ecological, *cultural*, and material costs for training the policymakers, real estate developers, designers, and builders within the context of Xintiandi?

P92-QCM-T-19: "*I don't know*".

QCM-T-20: What do you think were the ecological, *cultural*, and material costs of developing Xintiandi?

P92-QCM-T-20: "*I don't know*".

QCM-T-21: What do you think were the ecological, *cultural*, and material costs of Xintiandi's maintenance?

P92-QCM-T-21: "*I think it is primarily financial. if its business operations run well, cash flow should cover maintenance. Culturally, maintenance is more spiritual and value-driven; continuity depends on the viability of the commercial model and wider context*".

QCM-T-22: What do you think were the ecological, *cultural*, and material costs for communicating with Xintiandi's residents, commuters, and visitors?

P92-QCM-T-22: "*I don't know*".

QCM-T-23: What do you think were the ecological, *cultural*, and material costs for understanding with Xintiandi's residents, commuters, and visitors?

P92-QCM-T-23: "*I don't know*".

QCM-T-24: Xintiandi is used by residents, commuters, and visitors. Could you please tell me what you think their expectations of Xintiandi are from a *natural*, social, and material point of view? And how do you deal with this kind of expectation as an Architect?

P92-QCM-T-24: "*Residents seek status, identity and supporting services. Workers expect a higher-standard office environment and convenient leisure.*

Visitors' wishes might conflict with the first two; if Xintiandi satisfies residents and workers, visitors will likely also be satisfied.

As an architect, I deal with them by maintaining an appropriate distance and privacy

for offices and residences; let the commercial street be visible and accessible without overly intruding into living and working areas. For visitors, offices and residences can remain as a backdrop".

QCM-T-25: Is there anything else you want to add about Xintiandi?

(This question was answered using the tool: *Terms-naire Tray*)

P92-QCM-T-25: "*No, I think we cover all.*"

25.3.2. Ethnographic data (Interviewer's notes)

P92-QCM-W-06:

He showed **nostalgia** when he said, "***Shikumen houses*** *...* ***remind*** *me of my* ***childhood***".

P92-QCM-W-07:

He again showed **nostalgia** when he **talked** about how he **used to bring** his son to **Xintiandi** for **Christmas** to **have ice cream**, but **since he had grown up**, they **didn't do** it.

P92-QCM-T-02:

He **likes** to go to a **live music bar**, as this kind of entertainment **makes** him **feel** *"**relaxed**"*.

P92-QCM-T-05:

His wife is an architect.

P92-QCM-T-24:

When he says he **maintains** *"distance and privacy"* between **offices**, **residences, and commercial areas, he means a separate location** in the **design proposal**

25.4. Participant 93 (with tools)

25.4.1. Verbal data (Participants' answers transcriptions)

QCM-W-01: How often do you come to Xintiandi?

P93-QCU-W-01: "*After Xintiandi's Phase One was completed, I came here every day because my office was nearby, then my office changed, so I only come once*

per month".

(Part of P93-QCU-W-05) "*I knew the first shop in here. Now it is a cosmetic shop. At the beginning, it was a restaurant called Luna, offering Mediterranean cuisine. The restaurant was good, designed like a European street corner, with lots of people always. At that time, we didn't have a lot of restaurants with outdoor seating areas, offering chairs and umbrellas like European cities*".

QCU-W-02: Please share with me your connection with Xintiandi.

P93-QCU-W-02: "*Three relationships:*

One, my mom worked for Xintiandi. Her company participated in this project, so maybe I knew more about it than the common people.

Two, I worked nearby for 14 years. As a client or consumer here, I came every day. This place attracted lots of tourists: foreign tourists and people from other provinces in China, as well as locals who came as clients from other areas in

Shanghai, like the French Concession and British Settlement. There were lots of little commercial areas before Xintiandi, like Hengshan Road. After the renovation, people only wanted to come here. It became very trendy.

Three, as a local guy, I care about real estate prices and the property market. So, you will find that when it comes to luxury apartments, the price of real estate in Xintiandi will lead the price and trend in Shanghai. I mean, the true luxury apartments in the city centre of Shanghai are in Xintiandi. All the other real estate companies developed the luxury apartments after Xintiandi, following Xintiandi's standards. "

QCU-W-03: As a user, what do you think was the original purpose of Xintiandi?

P93-QCU-W-03: "*The purpose of Xintiandi was a real estate development, basically.*

I'll tell you a story not many people know. In 2000, Shui on Land was a small company in Hong Kong. Their status was not very good.

The chairman tried to invest all his resources in this project. If he failed, he would have lost everything. At that time, developers in Shanghai were very uncertain.

So, the purpose, I think, was to invest in a high-risk potential to enter the market that was not developed yet and try to make a profit out of it. It was a bet on the real estate of the mainland. A real estate speculation that paid off so big, because they caught the right time".

QCU-W-04: And what do you think architects think about Xintiandi?

P93-QCU-W-04: "*I'm old-fashioned, I like classical architecture. So this mixture is more complicated for me to tell.*

For me, the first stage of this commercial area of Xintiandi is very strange, because it's not like the French Concession. I mean, the streets in the French Concession are different. The architect combined architectural styles from Zhejiang and Jiangsu provinces. It is a new style.

So, in the commercial area, they combined Chinese and European Styles.

Chinese on Shanghainese elements.

But for Phase One of residential, they did a typical Hong Kong style".

QCU-W-05: As we walk through this place, please share with me your thoughts on Xintiandi's space elements.

P93-QCU-W-05: "*From here you can see the K11 tower. It is my former office*".

QCU-W-06: What are your favourite parts of Xintiandi? Why?

P93-QCU-W-06: "*To be honest, Xintiandi has too many tourists.*

I like the former French Concession more, and that's why I live there.

It is very quiet. Designed for residents".

(Part of P93-QCU-W-05) "*I think trees are really good. Look at these trees.*

Here, you clearly see that Xintiandi's purpose is commercial. This is the priority: commercial purpose.

But after the first serious success, I think they added more things to the cultural development."

QCU-W-07: What was your favourite experience ever in Xintiandi? Why?

P93-QCU-W-07: "*It is a perfect place for dating. You see this place.*

Perfect for dating, I remember the lamb chops were very good.

There's a place only for Shui On Land private banquets. A single house like this, but more beautiful.

Xintiandi, No. 1. I've been several times. Lots of very interesting private events there.

This is Qing Dynasty Style.

Here behind is Xintiandi No. 1 building".

QCU-T-01: How will you organise the different elements composing the entire Xintiandi? Why?

(This question was answered using the tool: *Emotion-naire Cards*)

(The details of the group's content, shown within brackets, were added using the FloatingvCamera and the interviewer's notes)

P93-QCU-T-01: "*transport (including nodes, paths, and type of transport); natural (including weather, green features, water features, and animals); business (including buildings, landmarks, places, things, and urban furniture); and behaviour (social activity).*"

QCU-T-02: Which of all these elements are your favourites? Please describe a desirable -ideal- experience you would like to have here.

(This question was answered using the tool: *Emotion-naire Cards*)

P93-QCU-T-02: "*When the sun rises, I use the metro to go to a coffee shop and to have a light breakfast, probably a latte with a croissant, then walk on the pedestrian streets, around the lake and visit the gallery. At lunch time, I'm going to the Langham Hotel for brunch, where I will have different drinks and food. After lunch, I'll go to the shopping mall to buy some small items, and after shopping, I'll have a glass of white wine and enjoy the sunshine, just like Europeans. For dinner, maybe there's a concert event or cultural activity in Xintiandi No. 1, after that I will go to a tea house to play cards with friends until night*".

QCU-T-03: Could you please describe yourself as a user?

(This question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-03: "*I'm a person who comes to drink wine, coffee, have some food, invite clients. Basically, I come when I need to eat and drink*".

QCU-T-04: Could you please describe Xintiandi's public space?

(This question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-04: "*I think it is complex. It combines too many concepts in this place. So, I think it's valuable as a lifestyle centre, a tourist and activity centre*".

QCU-T-05: Could you please explain how you know about Xintiandi?

(This question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-05: "*As I told you, I know Xintiandi as a customer because my office was in the K11, so I come here every day.*

I also have some inside information because my mom worked for Xintiandi as a PR manager for special events and projects".

QCU-T-06: Could you please talk about your experiences in Xintiandi?

(This question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-06: "*My experiences were mainly about having food and drinks, a place to make conversation, and socialising*".

QCU-T-07: Could you please explain your relationship with Xintiandi?

(This question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-07: "*It's a relationship of convenience*".

QCU-T-08: Could you please talk about your context as a user?

(This question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-08: "*I was born and grew up in Shanghai, I studied finance and I joined a company cooperating with BNP Paribas, which I still work for, so I get used to meeting with foreigners and sophisticated Chinese people, so I go almost every day to eat outside for meetings or socialising and that's why I am very familiar with Xintiandi*".

QCU-T-09: Could you please talk about the context of Xintiandi?

(This question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-09: "*It was a perfect timing for governments and investors.*

The ambition of the Hong Kong developer. They started just with this area: the land for the commercial project with several buildings for Phase 1. After they made huge profits, they expanded their scale maybe 6 - 7 times. So Xintiandi has now Phase 1 to Phase 7, with at least three main parts for the commercial area and all the rest for high-end residential.

Other real estate developers also came to this district to build more luxury apartments, and I think this matches the municipal government's purpose, because they wanted to attract the richest people around China and Hong Kong to invest here, offering the best location and conditions to them.

But it's expensive because they moved the middle-class people (previous community); they destroyed some buildings and then built large luxury apartments. Xintiandi is a

policy and a vision from the leaders of Shanghai".

QCU-T-10: Could you please talk about the context of your relationship with Xintiandi?

(This question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-10: "*I already mentioned*".

QCU-T-11: Could you please identify the *natural*, *cultural*, and *built* elements of Xintiandi's public spaces?

(This question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-11: "*Natural is the plane trees, because the lake is fake.*

Architectonic is the lanes and buildings where all the commercial shops and restaurants are.

Culture is the life that people bring, local people like me coming for eating and drinking, and tourists coming to visit and take pictures".

QCU-T-12: Could you please tell me how these *natural*, *cultural*, and *built* elements of Xintiandi influence your emotions, actions, and ideas?

(This question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-12: "*The emotion I had when I visited the residential projects of Xintiandi for the first time was of a brighter future. This was the first time I saw luxury apartment projects: very high-end, more than before. So, it represented the future. China's future, and my future.*

Architecturally, I think Xintiandi's residential and shopping mall are 80% modern, not classical, in a Hong Kong way, so even if they have classical components, it's hard to find an original style. The style is not Baroque, not classical, not French, not Shanghainese. I prefer the real French Concession.

Culturally, it is a touristic place. For example, in the French Concession, the houses are separate with they own garden, totally independent life; these are really top places, the homes of real Shanghai's elites. The people who live in Xintiandi's luxurious apartments are new money people, they are surrounded by many people, including tourists, so I am not interested in living here, but I am happy to come for drinking and eating anytime".

QCU-T-13: Could you please extend your thoughts about the contextual references related to you, Xintiandi, and your relationship with Xintiandi from a *natural*,

***cultural*, and material point of view?**

(This question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-13: "*As I said, the lake is artificial, Shui On Land made it, so I don't count the park as nature, even the trees were brought here from other sites. If I had a chance to develop real estate business here, the most important thing is its location. Location, location, location. So, personally, I will not think about using this land for an artificial park; Shanghai has many parks. But I cannot deny that this park created a successful image for people who want to be here. They want a park with trees and a lake. A peaceful residential area, where they can walk between gardens and animals. Culturally and architecturally, before WWII, this area was for middle-class people. There were lots of different lanes. In some lanes, you could park a car. Many locals had cars and single houses. At first, maybe one family occupied one unit; in the 30s the conflict with the Japanese started, ended with the 1937 occupation, lots of people outside the French concession and the International Settlement came inside to be protected. For some of these middle-class families, this was a way of making money and helping people, so they used one floor for their family and subdivided the other floors for people who wanted to live there. If you watch old films, you can find it.*

Besides the architectural style that those lanes houses represented, these houses inside became by 1940's small apartments, very crowded. So, culturally, before Xintiandi's redevelopment, this area represented the crowded, outdated, middle-class' improvised apartments from the WWII period. After Xintiandi's Phase 1 to Phase 7, these apartments represented the successful social class of China, not only in Shanghai. Even people from the US and Europe have bought properties in Xintiandi".

QCU-T-14: City spaces are used by residents, commuters, and visitors. Based on your experience, please talk about each of these groups.

(This question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-14: "*The biggest number of users are visitors. They are looking to explore the place, probably eating, drinking, or taking pictures. These are the most popular users. They are usually middle-class.*

The second is workers. Xintiandi is a place for commercial activities. It is a place for casually inviting clients from other provinces of China or from overseas, so they can experience some traditional Shanghainese buildings in a vibrant pedestrian street with plenty of options to enjoy. As for the people who attend these commercial places, they

are the typical working class.

The residents of luxury apartments like Xintiandi's location, but they probably socialise more often in high-end places that are less crowded, like the Bund and French Concession".

QCU-T-15: What do you think are the space information and experience expectations that each of these user groups has about Xintiandi?

(This question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-15: "*For the residents, less visitors; for the visitors, the best quality services at a cheap price; for the workers, more visitors and a better salary*".

QCU-T-16: Xintiandi was developed by authorities, investors, and designers. Could you please tell me what you think their objective was for Xintiandi from a *natural*, social, and material point of view? And how do you deal with this kind of proposal as a user?

(This question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-16: "*For the government, 25–35 years ago, they thought that this central location was so close to Huaihai Road and lots of office buildings for international companies, so the Lilong there, at less than 200 meters, were projecting a poor image of Shanghai. So the government wanted to change this area. They wanted to change the image of Shanghai, and Xintiandi was at the beginning and heart of that vision. So they moved out of the poor neighbourhoods and redesigned Xintiandi as a new international image for Shanghai.*

For the developers, the objective was clear, to make a successful real estate operation, to make money. But to get the license, they had to present a proposal to the government and try to align their vision with the government's' vision, which included leveraging the building of the first CCP meeting.

For the designer, I don't think that at that period the developer could afford a top designer, so I don't think Xintiandi is a master piece, but the scale is right.

But for all of them Xintiandi is a big success!

As for me, I am a customer, free to come or not. But I think the governments and developers want visitors and residents to keep their success, and these two bring workers"

QCU-T-17: Is there anything else you want to add about Xintiandi?

(This question was answered using the tool: *Terms-naire Tray*)

P93-QCU-T-17: "*Within the natural elements, I associate Xintiandi with sunny during the day, and moon and stars during the night; my favourite temperature is between 20C and 25C. Within the cultural elements, Xintiandi is usually crowded with many people; the atmosphere is urban, and I like the smell from the bakeries, restaurants, and bars. Within the constructural elements, I think Xintiandi is a landmark like the K11 and Langham Hotel; nowadays, I come to Xintiandi by private car because my office is no longer in the K11. Whenever I am in Xintiandi, I shop, eat, drink, and smoke*".

25.4.2. Visual data (*Ca(p)mera* and *Following>Camera* visual frames)



Image 166. *P93 - Ca(p)mera's and Following>Camera's frames A.*

P93

04:18



P93

05:14



P93

06:27



P93

08:07

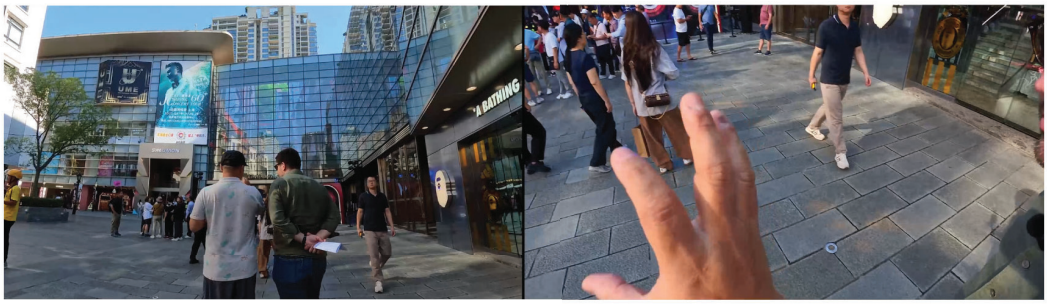


Image 167. *P93 - Ca(p)mera's and Following>Camera's frames B.*

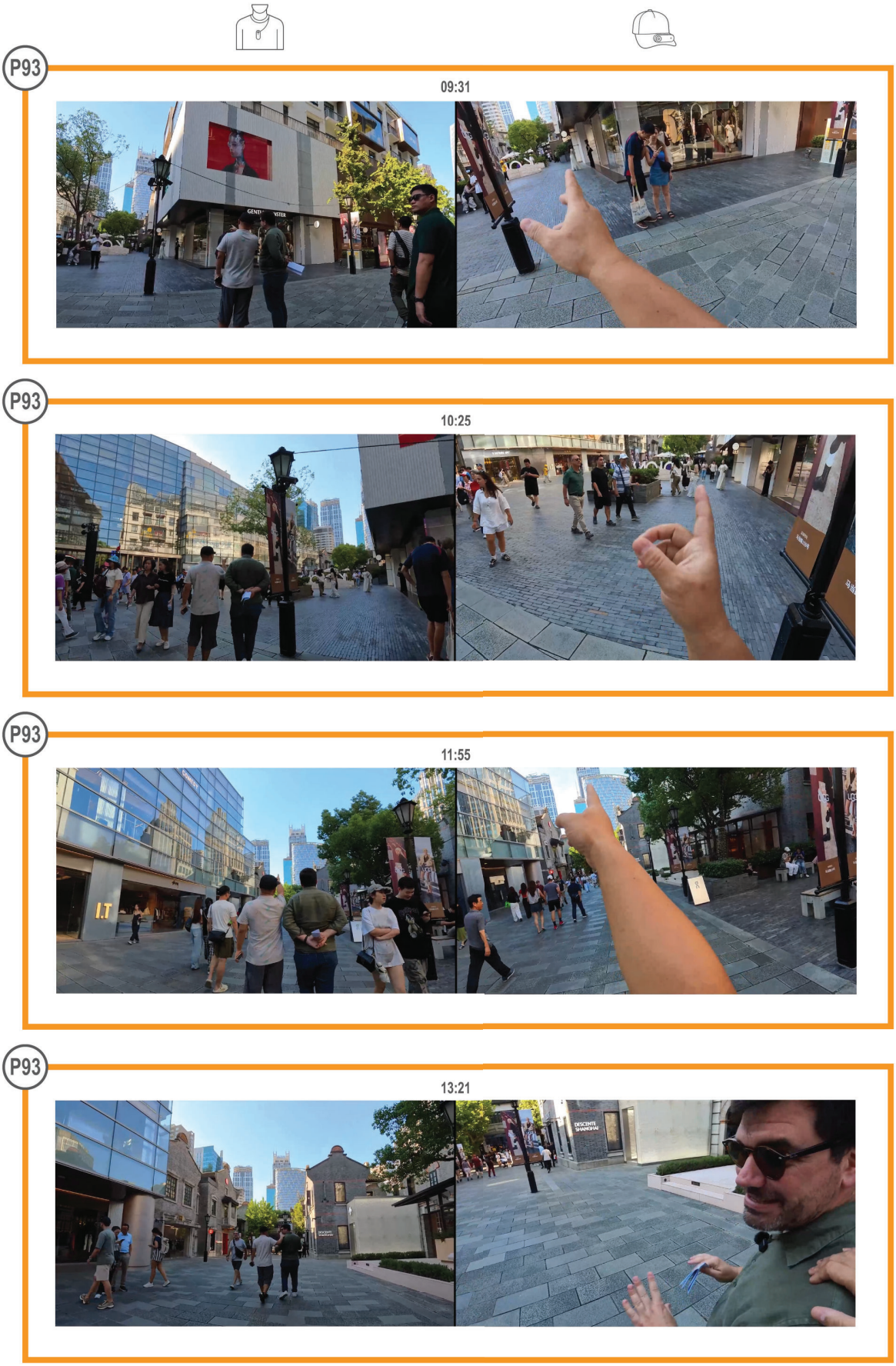


Image 168. *P93 - Ca(p)mera's and Following>Camera's frames C.*

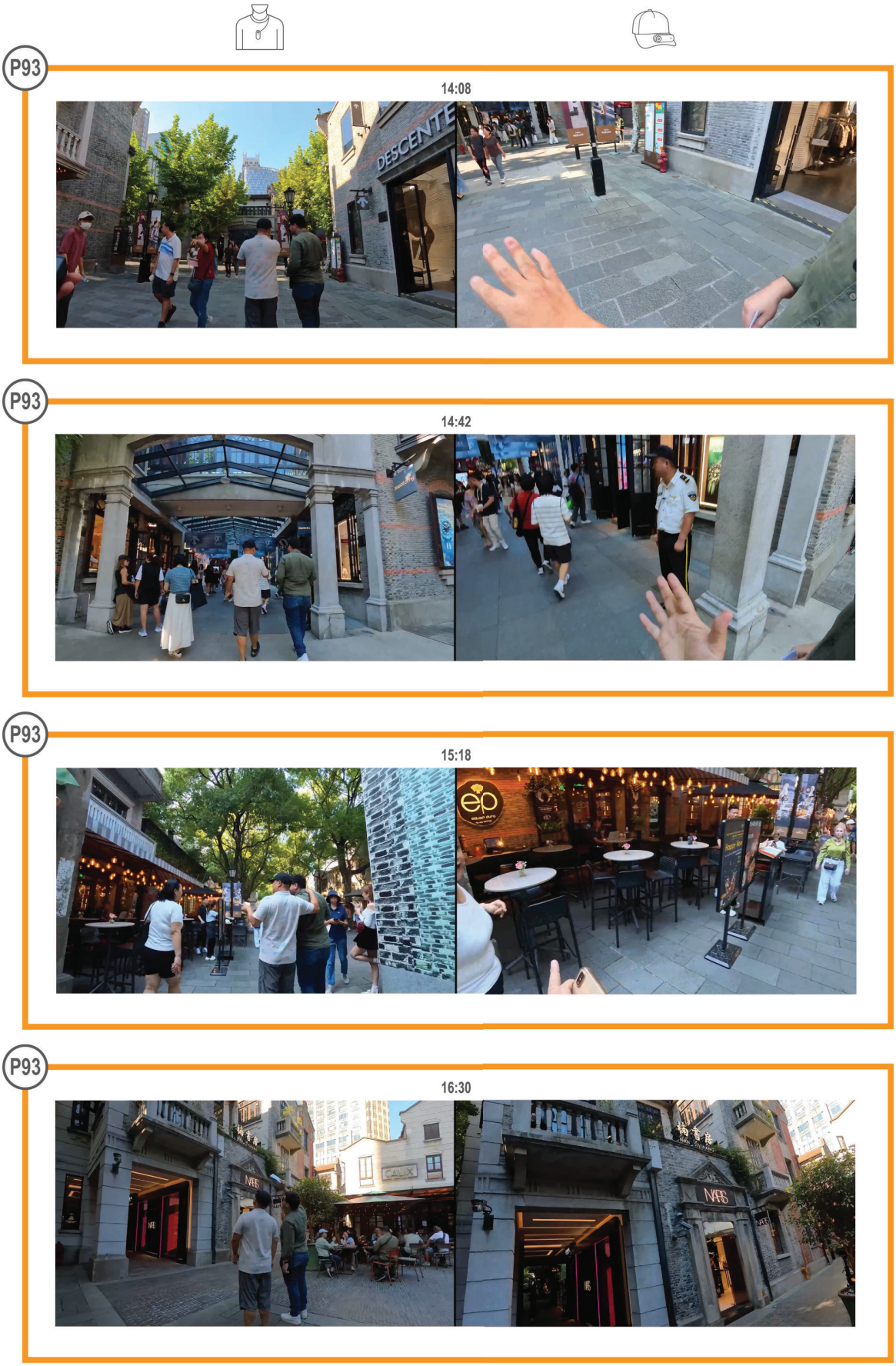


Image 169. *P93 - Ca(p)mera's and Following>Camera's frames D.*

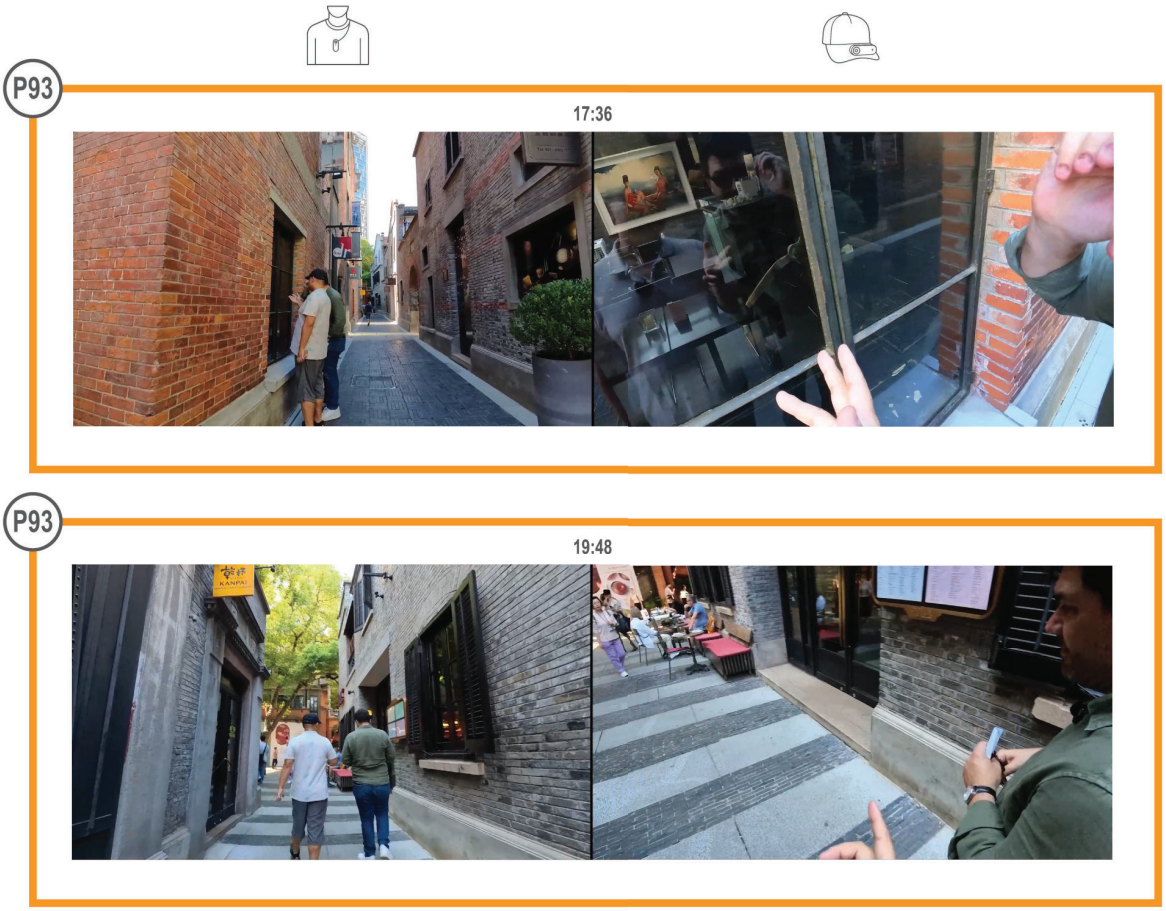


Image 170. *P93 - Ca(p)mera's and Following>Camera's frames E.*

25.4.3. Visual data (*FloatingvCamera* visual frames)

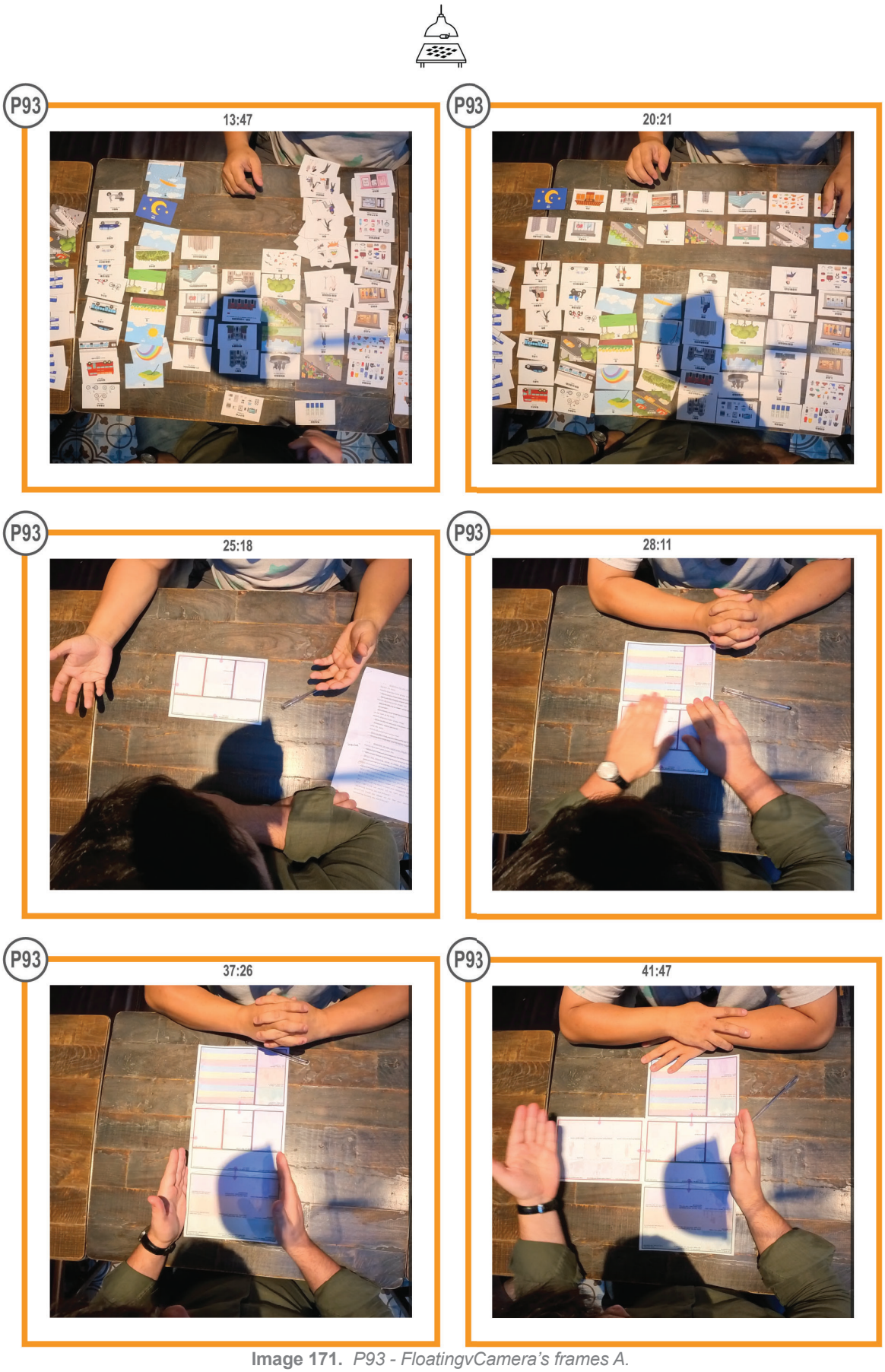


Image 171. *P93 - FloatingvCamera's frames A.*

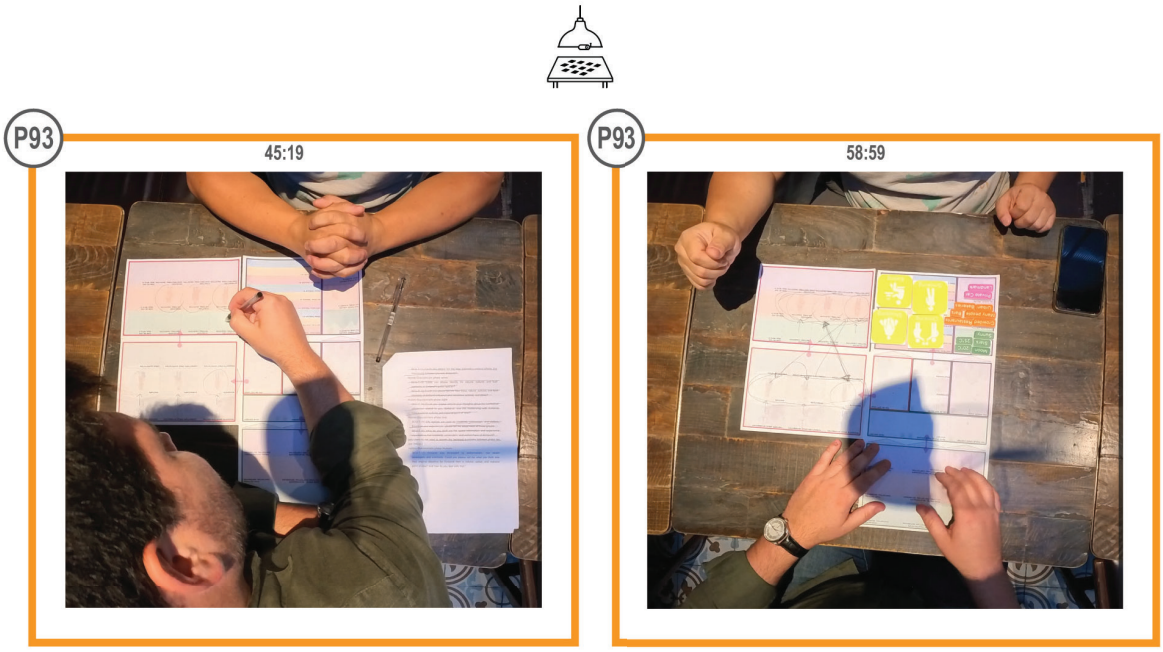


Image 172. *P93 - FloatingvCamera's frames A.*

25.4.4. Ethnographic data (Interviewer's notes)

(Part of P93-QCU-W-05):

He showed **nostalgia** when **talking** about the first **restaurant** to **open** in **Xintiandi**, "*called Luna*", as **it made** him **feel like** he **was** on a **European street** with a **vibrant terrace full of people eating**, **drinking** and **socialising**.

P93-QCU-W-02:

He **suggested** that **Shanghainese care** about **real estate prices** more than **shopping**

P93-QCU-W-07:

He **likes Xintiandi** for **dating**. He **thinks it** is a **charming place** to **impress** the date.

He also **likes** the **private banquets** that **Shui On Land organises** at **Xintiandi, No. 1.**

P93-QCU-T-01:

His groups: 1) "***transport***" including ***nodes***, ***paths***, and ***types of transport***; 2) "***natural***" including ***weather***, ***green features***, ***water features***, and ***animals***; 3) "***business***" including ***buildings***, ***landmarks***, ***places***, ***things***, and ***urban furniture***; and 4) ***behaviour*** including all the ***social activities***.

P93-QCU-T-02:

He knows the lake is man-made. he likes the Langham Hotel very much for its buffet brunch, which he believes is the best in the city; he also likes drinking wine and enjoying the sunshine, sitting on a terrace "*like Europeans*". He enjoys being part of the cultural elite by attending, for example, private dinners, concert events, and cultural activities. When he said, *"It is better to live in Xintiandi*", he was joking; he prefers to live in Shanghai's former French Concession.

P93-QCU-T-03:

He enjoys food and beverages and socialising.

P93-QCU-T-08:

He feels proud of his job and what he learned culturally from it.

P93-QCU-T-10:

When he said, "*I already mentioned*, " he referred to his explanation during the walk. He explained that he had three relationships: first, his mom worked for Shui On Land as an event's PR manager in Xintiandi No.1, and he is proud of being part of that community; second, he worked nearby at K11, so he visited Xintiandi as a customer very often, because he likes going there; and third, he is very interested in Shanghai's property market for top residential projects, as he is fascinated by it.

P93-QCU-T-12:

When he visited Xintiandi's residential project for the first time, he felt very proud of China and very excited about his future, because of what this project represented then. However, now he prefers the lifestyle of Shanghai's former French Concession.

P93-QCU-T-13:

He used a sentence structure that has been recurrent among *city users* throughout this research: "*If I had a chance*", showing his feeling of disinvolvement from developing the city.

He also used a popular sentence on real estate: "*location, location, location*", demonstrating how much he is into real estate developments, but from an economic point of view.

He acknowledges that even if he disagrees with building a man-made lake in

prime real estate locations, people **like it**.

He **explained** that initially, many **middle-class families owned** the entire **Lilong house**, but during the **war periods** from the **30s** and **40s**, some families **subdivided** their **houses** into **small units** to "***make money*** *and* ***help*** *people*". This **made** the **Lilongs** at the **site** where **Xintiandi** is today "***very crowded***", which made him **feel sorrow** as he **talked** about **it**.

P93-QCU-T-15:

He **thinks** that at **Xintiandi**, residents **wish** for **tranquillity**, visitors **wish** for **nice experiences**, and workers **wish** for **profitability**.

P93-QCU-T-16:

He thinks the real estate developer wanted to make money at Xintiandi, while the government **wanted** to **improve Shanghai's image**.

25.5. Participant 94 (without tools - control group)

25.5.1. Verbal data (Participants' answers transcriptions)

QCM-W-01: How often do you come to Xintiandi?

P94-QCU-W-01: "*That's a hard question, recently I didn't come often. But when I was younger, I did it quite often. Maybe I come now one time per week*".

QCU-W-02: Please share with me your connection with Xintiandi.

P94-QCU-W-02: "*Xintiandi is a fashionable place. But it still has the traditional buildings. It's meaningful for me because I was born in Shanghai and my primary school was near Xintiandi, so that was my neighbourhood at that time*".

QCU-W-03: As a user, what do you think was the original purpose of Xintiandi?

P94-QCU-W-03: "*I think the government wanted to make Xintiandi a symbol, with Shanghai's traditional culture in a modern way. And I know, Xintiandi is a symbol of China, even for the outside world. Most people inside and outside China, maybe people who have never been to Xintiandi, know about Xintiandi. If you talk about Shanghai with Chinese or Foreigners, most likely they know about the Bund and Xintiandi*".

QCU-W-04: And what do you think architects think about Xintiandi?

P94-QCU-W-04: "*I don't know how to explain this*".

QCU-W-05: As we walk through this place, please share with me your thoughts on Xintiandi's space elements.

P94-QCU-W-05: "*Well, you can see a lake there that didn't exist before. That was another Shikumen that was demolished.*

This big museum was not here either. They built this because people from all over China wanted to come here to visit the place where the CCP first met. They meet in this little lane house. That's why the government wanted to make this place bigger as a symbol of Shanghai.

These buildings are residential apartments, very expensive apartments, but I prefer the Shikumen.

This is the shopping mall. The developer of Xintiandi is from Hong Kong, so he brought this typical Hong Kong Shopping mall to Shanghai with luxury brands and restaurants. But the central zone of Xintiandi is that area with bars, restaurants, and shops, like the typical Shanghai neighbourhood with people in the lanes talking, eating, and playing.

For the city and for locals, these outdoor spaces are very good places for meeting and socialising.

This fountain is a tourist destination. That's why recently I don't come as often as before to avoid this touristic feeling. I prefer the restaurants behind that lane".

QCU-W-06: What are your favourite parts of Xintiandi? Why?

P94-QCU-W-06: "*The old, traditional Shanghai Shikumen buildings, with some restaurants and some bars inside. That's my favourite! I like that very much!*".

QCU-W-07: What was your favourite experience ever in Xintiandi? Why?

P94-QCU-W-07: "*That's a hard question. I want to give you a clear answer. Maybe just walk in Xintiandi and go through the old buildings. Because the government renewed these buildings but also kept their old look. Walking along Taicang Road, near Madang Road, is a good experience for me. It reminded me of when I was a little boy walking in the streets of Shanghai.*

The Shikumes are very special to me because I was born here. When I was little, I lived in Xujiahui. Now I live near Madang Road. The building I lived in as a child is still there. So, this place keeps the flavour. It's special for Shanghai".

QCU-T-01: How will you organise the different elements composing the entire Xintiandi? Why?

P94-QCU-T-01: "*I'm not sure. Maybe not very clear for me*".

QCU-T-02: Which of all these elements are your favourites? Please describe a desirable -ideal- experience that you would like to have here.

P94-QCU-T-02: "*In my heart, if everybody in Xintiandi spoke Shanghainese, that would be ideal. Because for me, Xintiandi is a symbol of Shanghai tradition.*

Today, it mixes too many cultures. I don't even know how to introduce Shanghai to foreigners. It's too complex.

So, if I can, I would keep more local Shanghai culture here. I wish to keep the old Shanghai traditions because we are losing them very fast. Maybe my grandson will have no sense of Shanghainese traditions. Xintiandi is a famous symbol, but maybe it could do more to protect cultural traditions".

QCU-T-03: Could you please describe yourself as a user?

P94-QCU-T-03: "*I am proud Shanghainese*".

QCU-T-04: Could you please describe Xintiandi's public space?

P94-QCU-T-04: "*It's a place in the city centre of Shanghai. A fashionable symbol combining many things... too many cultures, too complex*".

QCU-T-05: Could you please explain how you know about Xintiandi?

P94-QCU-T-05: "*From studying nearby as a child*".

QCU-T-06: Could you please talk about your experiences in Xintiandi?

P94-QCU-T-06: "*We already talked about it; I like to experience being in the streets of my childhood with people carrying on with their lives outdoors with today's standards*".

QCU-T-07: Could you please explain your relationship with Xintiandi?

P94-QCU-T-07: "*Same as the previous answer, right?*".

QCU-T-08: Could you please talk about your context as a user?

P94-QCU-T-08: "*This is hard, I don't know how to say this*".

QCU-T-09: Could you please talk about the context of Xintiandi?

P94-QCU-T-09: "*It is an old neighbourhood of Shanghai that the government wanted to renovate to make it a symbol of the city related to Shanghai culture, because the Bund is a symbol of British influence*".

QCU-T-10: Could you please talk about the context of your relationship with

Xintiandi?

P94-QCU-T-10: "*Besides what we already talked about, I don't know what else to say*".

QCU-T-11: Could you please identify the *natural*, *cultural*, and *built* elements of Xintiandi's public spaces?

P94-QCU-T-11: "*Natural elements are the soil, the trees, for Shanghai and Xintiandi are the wutong trees.*

Cultural element. You know Shanghai has a different personality than the rest of China. I think Xintiandi is the personality of the Shanghainese. Sometimes elegant, sometimes loud.

The most important architectural element is the Shikumen style. The Communist Party's first meeting was in a Shikumen building".

QCU-T-12: Could you please tell me how these *natural*, *cultural*, and *built* elements of Xintiandi influence your emotions, actions, and ideas?

P94-QCU-T-12: "*Emotions: maybe it's not very accurate, but I need to talk about the old lifestyle, everyone can enjoy.*

Actions: it is good to meet friends, because I am here, I feel it is a friendly place, we can even talk with strangers.

Ideas: Xintiandi makes me think about my childhood community".

QCU-T-13: Could you please extend your thoughts about the contextual references related to you, Xintiandi, and your relationship with Xintiandi from a *natural*, cultural, and material point of view?

P94-QCU-T-13: "*Xintiandi's original neighbourhood had red brick buildings with white plaster lines, very different from northern Chinese buildings. I have a childhood memory of peeling this plaster with other children just for fun*".

QCU-T-14: City spaces are used by residents, commuters, and visitors. Based on your experience, please talk about each of these groups.

P94-QCU-T-14: "*Foreign visitors or Chinese from other provinces are tourists, don't always understand its true meaning, but they probably enjoy the space. Workers, some are busy, have no time to enjoy, but others who run shops here want to show what they are good at.*

Xintiandi has too much commerce, so it is the same as many other places for those who work here, no time for thinking or enjoying.

For the residents who live in the old Lilongs, life is hard; they have to do everything in a very small space. The new residential is very luxurious".

QCU-T-15: What do you think are the space information and experience expectations that each of these user groups has about Xintiandi?

P94-QCU-T-15: "*I don't know*"

QCU-T-16: Xintiandi was developed by authorities, investors, and designers. Could you please tell me about their objective for Xintiandi from a natural, social, and material point of view? And how do you deal with this kind of proposal as a user?

P94-QCU-T-16: "*The government wants to make money; the government is like*

a big company.

The developer is from Hong Kong. They don't know about Shanghai's architecture and do everything to make money, so they ruin the old neighbourhood of Xintiandi.

Architects may want to do something good, but they have little power. In Asian culture, they don't have the right to decide; they can only make suggestions".

QCU-T-17: Is there anything else you want to add about Xintiandi?

(This question was answered using the tool: *Terms-naire Tray*)

P92-QCM-T-17: "*No, I said everything.*"

25.5.2. Ethnographic data (Interviewer's notes)

P94-QCU-W-05:

He **likes** the **typical Shanghainese neighbourhood** of **Xintiandi**, with people in the **public spaces** **talking**, **eating**, and **playing**. He **prefers** the **restaurants** in the **hidden lanes**, which are **less touristic** and mainly **chosen by locals**.

P94-QCU-W-07:

At this point in the interview, it became evident that the participant was **struggling** with some **questions**, **taking double the time** to **reply**, compared with the previous participants. Still, he **made** an effort to **comply** with all the requirements.

He **likes** **walking** along **Taicang Road**, near **Madang Road**, **because** it **reminds** him of his **childhood experiences**, which **makes** him **nostalgic**.

He **believes** that the **Shikumen lifestyle** is the identity of **Shanghainese**.

P94-QCU-T-02:

He **believes** that **Shanghai** is **mixing** **too many cultures and styles** and has become **too complex**, which made him **feel nostalgic again**.

He also **used** a **sentence structure recurrent among** ***city users*** throughout this **research**: "If I ***could keep*** *more* ***local Shanghai culture here***".

P94-QCU-T-11:

When he **talks** about "**wutong trees**", he refers to **plane trees**. **That** is the ***Chinese colloquial translation.***

P94-QCU-T-12:

He **keeps** **feeling nostalgic** for the **old lifestyle** of the **neighbourhood** before **Xintiandi's renovation**. Nevertheless, he also **likes Xintiandi** **because** he **feels** it is a **friendly place** where people *"can even* ***talk*** *with strangers".*

P94-QCU-T-13:

He **is proud** of **Shanghai's architecture** and **has** **happy memories** from his **childhood** related to **its bricks and plaster**.

P94-QCU-T-14:

He **thinks** the people who **run** **Xintiandi's shops** **are** **there** **to** **sell** their **products and services**, so their focus is more **commercial** than **cultural**.

He **focused** his answer on the **working culture**. He **thinks** the residents **still living** in the **old Lilongs** nearby **Xintiandi** **have** a **hard lifestyle**; compared to the residents of **Xintiandi's luxury apartments**, **implying** that life is **easy** for them.

P94-QCU-T-16:

Once again, he shows **nostalgia** and **frustration** for the **demolition** of the **old neighbourhood** **where** he used to **play** when **he was a kid.**

He **sees** the architects involved as **working-class** people **struggling** with the **power** of governments and real estate development.

26. ANALYSIS OF *DESIRABLE CITIES*' TOOLS' EFFECTIVENESS

26.1. Identifying *Cities' PIDs from* participants' answers

This identification process visually shows how *Cities' PIDs* emerged from each participant's responses. These were colour-coded to highlight key elements of the urban environment they referenced: **green** for ***natural elements***, **orange** for ***cultural elements***, and **purple** for ***constructural elements***. Another set of colours also highlights the types of responses: **red** for ***emotions***, **yellow** for ***actions***, and **blue** for ***reflections***. By applying this dual coding system, one for the urban elements and another for the type of participant response, *Desirable Cities* could cross-reference the participants' feedback, the anthropological field notes, and the video screenshots. This approach allowed *Desirable Cities* to create a richly layered and visually intuitive analysis of how *city makers* and *city users* experienced and articulated their urban environment, depending on whether they used the tools.

26.1.1. Identified *Cities' PIDs* of P91

P91-QCM-W-01: "*Every month… **I come** one or two times*". **(video: 00:13)**

P91-QCM-W-02: "*It **represents 1930s Shanghai. I like it!***".

P91-QCM-W-03: "*As an **architect**… **I think** the purpose is to be a **successful** real estate development*". **(video: 01:37)**

P91-QCM-W-04: "***I think they think** it's a* mixer *of **old** and **new**. **Xintiandi makes** people **relax**.* **(video: 02:18)**

*Actually, **Xintiandi feeds** the **imagination** of the people. It's like a **Lilong feeling*** (**outdoor community culture**), *people can **play together**. **It is not** like a **shopping mall*** (**outdoor community culture**).

*People **have** coffee and drinks, and eventually they can **buy** something.*

*The **trees providing shade** and the **human scale*** (**buildings**) *help people **feel** they **are** in a **lane**, having a **community life***". **(video: 03:21)**

P91-QCM-W-05: "*For me, the **first image** is the **red brick building**. It is beautiful* (**he likes it**).

***The communist party first meeting** was **there**.* **(video: 04:10)**

***I think** people **like** this **place because** all the **building looks residential**.*

*They **put** the **restaurant** on the **ground floor**, which **invites** people to **feel** that they **are** in a **lane*** (Lilong), ***in a neighbourhood**, **not in a shopping mall**.*

***I really like** these **lanes, balconies,** and **windows**.* **(video: 05:14)**

I think they did a great job of making this space look interesting.

This is Phase Two, and Phase Three. **(video: 06:11)**

But I like Phase One the most. **(video: 06:29)**

I think the most beautiful street is the left side (**he likes it**). **(video: 06:49**

Because the façade is a very typical Shikumen building.

And the balcony is made with wood, very nice as well.

Also, the trees. I like these trees because they improve the street.

You feel you are in the French Concession.

This mix (colours) *of bricks is because Chinese people like grey bricks* **(video: 08:53),** *but around 1900, many buildings used orange brick in England, especially Victorian Style terrace houses. So, when the British started to make residential buildings in Shanghai, this mix of grey and orange bricks* (**Haipai Style**) *emerged.* **(video: 09:49)**

But I have a question (**he is curious**): *why do they use arches like this? A bit of Italian Classic Style.* **(video: 10:39)**

Oh! these tiles are very interesting (**he likes it**).

These tiles are typical Chinese Style. **(video: 11:35)**

The small ties, and I don't think that all the roofs are like this. The red one is like English Style, but this *is Chinese Style.*

This is *very interesting!* **(video: 12:47)**

They used stone, a kind of granite. Different from usual details. Western culture and Chinese culture together".

P91-QCM-W-06: "*The mansion, Xintiandi No.1. Very special architecture*" (**he likes it very much**).

P91-QCM-W-07: "*Well, same building: Xintiandi No.1. Once I was invited by Shui On Land* (Xintiandi's real estate developer and client) *to have a party in this building. A real nice party, with artists, famous designers, and governments* (**elite lifestyle**). *My best experience so far in Xintiandi*" (**he is proud of this**).

(The following question was answered using the tool: *Emotion-naire Cards*)

(The details of the group's content, shown within brackets, were added using the *FloatingvCamera* and the *interviewer's notes*)

P91-QCM-T-01: "***Things I like*** (including, **weather**, **green features**, **animals**, **building**, **urban furniture**, and **social activities**), ***things my family like*** (including **weather**, **green features**, **water features**, **things**, and **social activities**), ***riverside lifestyle*** (these are things that although can be found in Xintiandi, the participant

believe are more related to other areas of the city, including **weather**, **paths**, **types of transport**, and **social activities**), and ***Xintiandi lifestyle*** (including **nodes**, **paths**, and **social activities**)".

(This question was answered using the tool: *Emotion-naire Cards*)

P91-QCM-T-02: "*In the morning, on a **sunny day**, I'm in my **house*** (small unit in a **Shikumen**). *I will **walk** to a **coffee shop**, then **walk my dog** and let **him run** in the **park** between the **bushes**, **trees** and **flowers** until the weather changes. When it became **cloudy**, I would **go home** to **read** and **play** on the phone until the **wind** and **rain** started. When it's **raining**, **I like smoking** and **going** to **exhibitions**, **because** there are **less** people. So, I will go to the **gallery** in **Xintiandi No.1** until the **sun** pops up again and the **rainbow** comes. After, I will **walk** back **home** through the **grass** to have **dinner** and **eat noodles**, which is my **favourite dish**; until the **moon** pops up and I will **go to sleep***".

(The following question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-03: "***I think** I'm a **traditional architec***t".

(The following question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-04: "***Friendly** and **comfortable scale***" (**he likes it**).

(The following question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-05: "***Because I am Shanghainese***".

(The following question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-06: "***Exploring** the **mix** of **architecture** and **culture** between **1930s and 2010s***".

(The following question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-07: "*They are **my client***" (**he is proud of this**).

(The following question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-08: "*In my childhood, I **grew up** in **Zhongshan Park area**, and **I played** in **Yuyuan Road*** (Yuyuan Road is a historical street of 1930s Shanghai). *So **I became very familiar** with **well-designed buildings**. Like **Xintiandi's mansion*** (Xintiandi No.1). *Also, the **school** I **studied** at is like **these buildings**. **Very beautiful**. At the beginning **I thought** it was normal, but after 15 years, **I realised** these **buildings** were **really nice** and **special**, even if some were deteriorated and **poorly kept**. **I guess** that's why I **became** an **architect***".

(The following question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-09: "*It is the **Lilong** where the **Communist Party first met**, it is in the **city centre of Shanghai**, and the governments **wanted** to **start to improve** the*

image of the city with better and modern developments".

(The following question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-10: "*I like the classical elements* (**Architectural Styles**). *Xintiandi has many classical elements. If you see the cards I chose, I prefer the trees, the flowers, and the classical buildings from the Xintiandi's mansion to humble Lilong. I like these people's environments with nature and classical buildings, that's why I am a traditional architect. And this is like the atmosphere of my childhood, with the traditional streets and courtyards with trees and shade, making the streets and courtyards very comfortable and beautiful to enjoy life outdoors. Back then, we didn't have air conditioning, now it's the same, we are here outdoors without AC*".

(The following question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-11: "*Natural. I think it's shade. The trees, the shadow they provide, the breeze that goes through these courtyards and lanes.*

Culture is provided by the space, these courtyards always remind me of when I was in my childhood, and my friends and I shared stories, sitting outside. We were reading different stories: scary stories, I remember a story about Russia, and about the British and French concessions. We spent two - three hours sharing these stories we read or heard, from 6:30 to 9:30. It is a neighbourhood (**he likes it**).

Architecture. It is the red brick, columns, balconies, gates, and the courtyard".

(The following question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-12: "*The natural elements are shade, trees, and life outside. These make me feel peaceful, the emotion is peace; the action is relaxing; and the idea is growth.*

In culture, it is sharing stories and reading. So, the emotion is happiness, good stories make me happy; the action is exploring; and the idea is adventure.

The built elements are mainly bricks and balconies. These make me feel the art of composition, artistic feeling; the action it produces is learning and studying it; the ideas I get are the principles of architecture".

(The following question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-13: "*My natural references are open spaces, like in my childhood, and the change of weather, like in my cards' story. And for Xintiandi, I think the natural reference is the wind, how Xintiandi channel the soft wind to the*

open spaces for people to do activities outdoors in their interconnected plazas and lanes, with trees providing shade.

My cultural references are the last 100 years of China (he likes them). *I don't like the history of China during the dynasties. For Xintiandi, the cultural references are Hong Kong's developments, together with Shanghai's Lilong.*

My architectural references are mainly from 1910 to 1935 (he likes them). *And the architectural ideas of Xintiandi were similar to those of China for the Olympic Games (2008); probably until 2012, then the ideas changed*".

(The following question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-14: "*The governments are driven by power, the real estate developers by profits, the designers by dreams, and builders are very hard-working people*".

(The following question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-15: "*For their objectives, the governments wanted to change the image of the city; to find a way to rebuild the city; the real estate developers wanted to find a good opportunity to make a profit at that time* (around 2005); *the designers wanted to participate in a unique project; and the builders wanted to complete their* work.

For their outcomes, the high price of Xintiandi's residential project (prestige) *helped the governments to increase the value of the land for* future developments in the *city centre* of Shanghai (this means that the governments *increased* their *revenue* to *reinvest* it in *infrastructure*, like the metro system, the Expo, etc.); *it also helped Shui On Land* (the real estate developer) *to become very successful in the market; the result of the designers was the prestige and design style that helped them to win new contracts; and for the construction company* (and builders) *was the same: It became a project to feel proud of and it definitely helped them to get more jobs*".

(The following question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-16: "*I think the cultural resource of the governments is also their power, in addition to that, their new knowledge of the free economic model allowed Xintiandi to be materialised the way it is. For real estate developers, the cultural resource was their experience in the Hong Kong mixed-use projects, which they implemented in Shanghai. For the designers, the cultural resource was their international background, which was not common in Shanghai at that time. And for the builders was their culture of hard work to own their salary and economic growth*".

(The following question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-17: "***At that time***, *for the governments, the material cost was cheap because it was* ***one of the first projects*** *of the city. Same for the developer, they catch the* ***economic wave at the very beginning*** (**profitable**). *For the designer, the material was* ***very profitable*** *because salaries were low and design fees were high, as there was* ***little competition***. *And for the construction company also* ***very profitable***, *for* ***same reasons***".

(The following question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-18: "***I think*** *the Shanghai government* ***spent*** *a lot of time and resources* (he is referring to **material cost**) *to* ***understand*** *and* ***plan*** *the* ***development of Shanghai*** *and to* ***allow*** *all these new developments, within the* ***free market***, *to* ***improve*** *and* ***develop Shanghai***".

(The following question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-19: "*Yes, the communist party have a* ***system*** *for* ***training*** *the city governments to* ***understand*** *the* ***planning*** *and* ***economics*** *of* ***cities***. ***How*** *to* ***invest*** *in* ***balancing*** *the* ***environment***, ***promoting*** *the Chinese* ***culture*** *and* ***making*** *cities'* ***infrastructure better***. *For the rest* (real estate developers, designers and builders), *they* ***learn*** *from* ***study*** *and the* ***experiences*** *in the free* ***market***".

(The following question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-20: "*In addition to the cost of the* ***project***, *there is also the government's cost, to* ***develop*** *the* ***infrastructure***, *like the* ***metro lines*** (**material cost**), *and the cost of* ***making*** *the* ***land available*** *for the* ***new development*** *by* ***relocating*** *or* ***paying off old*** *residents* (**cultural** and **material** cost)".

(The following question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-21: "***I think*** *every year* ***Xintiandi*** *will* ***charge*** *the management fees to the* ***commercial venues*** *and the residents so that they can* ***pay*** *for the cost of maintenance* (**cultural** and **material** cost)".

(The following question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-22: "*I don't know*".

(The following question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-23: "*I don't know*".

(The following question was answered using the tool: *Structure-naire Canvas*)

P91-QCM-T-24: "*The people who* ***live*** *in* ***Xintiandi*** *are rich people, highly- paid working people, and government officials* (buying costs and rent are very high). *Business and rich people. What they* ***want*** *is to* ***live*** *in a* ***prestigious location*** *in the*

city centre.

The people who work here, I think, are from financial and international companies, as well as people who work for luxury brands and food and beverage. They want to have a good job, a good salary.

Xintiandi is visited by people from all over China and foreign countries. They want to have an interesting time. Also at the weekends, people who live in the first ring of Shanghai come to Xintiandi to have the lifestyle of those who live here.

As an architect, the people who work or visit Xintiandi are not my clients, because I focus on residential projects, so I deal with developers (like Shui On Land) *and private clients. In Xintiandi, these private clients are mainly young people, like movie stars, second-generation successful clients*".

26.1.2. Identified *Cities' PIDs* of P92

P92-QCM-W-01: "*Recently, not very often, maybe once a month. Before, when I was younger, I came more frequently*".

P92-QCM-W-02: "*I used to live nearby. For me, it is a fashionable place, but it still keeps some traditional buildings*".

P92-QCM-W-03: "*It was to show Shanghai's culture, mixing modern and traditional elements. It's also a symbol for outsiders*".

P92-QCM-W-04: "*A mix of functions like bars, restaurants, and shops. A fashionable place.*

A mix of spaces, not purely old, not purely new.

A meeting place to have fun".

P92-QCM-W-05: "*This street is very busy because it goes to Huaihai Road. Here is the museum of the communist party first meeting.*

Originally was only here on the right, this small building, but many people wanted to visit it, so a couple of years ago, the government built this new museum. So, now, it has a bigger capacity, and many people are in this lane moving between the two buildings and taking pictures in between.

Now this lane looks like an outdoor museum.

That lake was built ten years ago. I think it is a very nice part for the people

who live here.

*There was **Phase One**, this is **Phase Two**, and those are **Phases Three, Four,***

*and **Five**. **Very expensive residential projects**. **Very good location**. **I like it**!*

*Here is the **shopping mall**. **Typical** shopping mall.*

*But this is the **street of shops**. **I like** this very much! This way, we can go back to Phase One.*

*You can **see** that all these **bars** and **restaurants** are **very busy. Very popular***

*This part **around the fountain feels** more like a **touristic** spot than a local place.*

*These **trees** are **beautiful**, now in **summer give shade**, in **winter** the **leaves fall** so the **sun** can **pass through** and **warm**. **Very comfortable**.*

*From here to there are more **shops** because it is **closer** to the **busy road.***

*This is a very **traditional** and **detached villa**. There are not many like this. These are **Lilong Shikumen**. My favourites. **I like** these a lot!*".

P92-QCM-W-06: "*The **Shikumen houses**, **because** they **remind** me of my **childhood*** (**nostalgia**)".

P92-QCM-W-07: "***Every Christmas** I **took** my son to **Xintiandi**, **we had ice cream** at **Häagen-Dazs**, and **we'd talk** about things **beyond school**… But he had grown up, so **we do** these things **less*** (**nostalgia**)".

P92-QCM-T-01: "***I will split** it into **'old** and **new'**, and also the places **I like***".

P92-QCM-T-02: "***Sleep** until late, **grab brunch** in the afternoon, and a **coffee chatting** with friends into the evening and then **going** to a **live-house*** (***live music bar***); *just a **relaxed** day*".

P92-QCM-T-03: "***I love architecture**; when it comes to fully **mastering** it, **I feel** I'm **not quite there***".

P92-QCM-T-04: "*Beyond basic functions, it has **created** a **place** people **like to go**, something that **resonates with the public's subconscious***".

P92-QCM-T-05: "*My wife (architect) **told** me. We **went for a walk** at night when it had just been **completed**, and there were a few people*".

P92-QCM-T-06: "***Case study** for **how** to do **Lilong renovations***".

P92-QCM-T-07: "*Whenever **I think** of it, **I want** to go for a **walk** there. **Work** often **narrows my thinking**, and when **I am going** to **Xintiandi**, it makes the **space and time feel more open***".

P92-QCM-T-08: "*I don't know*".

P92-QCM-T-09: "*It was a **prime location** that **needed** to be **renovated***".

P92-QCM-T-10: "*My wife and I are **architects**, and **we** **wanted** to **see** the **project** after completion*".

P92-QCM-T-11: "*Culturally, it **meets** the collective subconscious of **Shanghainese**, as it **expresses** **their identity**. For the natural, if **humans** are part of nature, then human-made things can **become** part of the **natural system** when they **endure**. **Xintiandi** has **embedded itself into that system**; its **ability to continue** makes it, in a sense, **more natural***".

P92-QCM-T-12: "*When I was younger, I even **wanted** to **live** **here**: to **buy** a **home**, partly to **express** a **sense of uniqueness**. **Xintiandi** is **perceived** as a **high-end place**. That **wish** has **softened** with time, but it's **still there***".

P92-QCM-T-13: "*I still don't know how to explain the context*".

P92-QCM-T-14: "*Government **needs** a **vision**, not just a **political** **task**.*

*Developers must **work out** a **sustainable**, **profitable** model. Designers have **ideas** for the developer's requirements.*

*Builders and suppliers raise **craftsmanship** and **product quality** to **match** the* project's standard".

P92-QCM-T-15: "*Government **pursued** a **representative image** for **Shanghai**. Developers **pursued strategic** **opportunities** and **profitability**.*

*Designers **pursued professional** **ambition**.*

*Builders and suppliers **pursued** successful participation in a **landmark** **project***".

P92-QCM-T-16: "*Government resources ultimately are **coming** from **central** **policy direction**.*

*Developers have **capital**, often diversified, including overseas channels. Designers have a **professional brand** and international links.*

*Builders have **craft** capacity and supply chains capable of higher quality*".

P92-QCM-T-17: "*There are **significant training costs** in time and money, though I can't specify them precisely*".

P92-QCM-T-18: "This is difficult to define clearly in my view". P92-QCM-T-19: "I don't know".

P92-QCM-T-20: "I don't know".

P92-QCM-T-21: "***I think** it is **primarily financial**. If its business operations run well, cash flow should **cover maintenance**. Culturally, maintenance is more **spiritual** and **value-driven**; **continuity** depends on the viability of the **commercial model** and **wider context***".

P92-QCM-T-22: "*I don't know*".

P92-QCM-T-23: "*I don't know*".

P92-QCM-T-24: "*Residents **seek status**, **identity** and **supporting services**. Workers **expect** a **higher-standard office** environment and **convenient leisure**.*

*Visitors' **wishes** might conflict with the first two; if **Xintiandi satisfies** residents and workers, visitors will likely also be **satisfied**.*

*As an architect, **I deal** with them by maintaining an appropriate distance and privacy* (**design proposal**) *for **offices** and **residences**; let the **commercial street** be **visible** and **accessible** without overly intruding into **living and working areas**. For visitors, **offices** and **residences** can remain as a backdrop* (**design proposal**)".

26.1.3. Identified *Cities' PIDs* of P93

P93-QCU-W-01: "*After **Xintiandi's Phase One** was completed, I **came** here every day because my **office was nearby**, then my office changed, so I only **come** once per month*". **(video: 00:31)**

(Part of P93-QCU-W-05) "*I knew the **first shop** in here. Now it is a **cosmetic shop**. At the beginning, it was a **restaurant** called Luna, **offering Mediterranean cuisine**. The **restaurant** was **good**, **designed** like a **European street corner**, with lots of people always. At that time, we didn't have a lot of **restaurants** with **outdoor seating** areas, **offering chairs and umbrellas like European cities*** (**he feels nostalgia**)". **(video: 01:37)**

P93-QCU-W-02: "*Three relationships:*

*One, my mom **worked** for **Xintiandi**.* **(video: 02:49)**

*Her company **participated** in this **project**. so **maybe I knew**, more than, common people about the **project**.*

*Two, I **worked** nearby for **14 years**.* **(video: 03:05)**

*As a client or consumer here, I **came** every day.*

*This **place** **attracted** lots of tourists: **Foreign tourists** and people from other **provinces in China**, as well as local (**Shanghainese**), who **come** as clients from other areas in **Shanghai**, like the **French Concession** (Xuhui District), **British Settlement** (Huangpu District).* **(video: 04:18)**

*There were lots of **little commercial areas** before **Xintiandi**, like **Hengshan Road**.*

*After the (**Xintiandi**) **renovation**, people only **wanted** to **come** **here**. It **became** **very trendy**.* **(video: 05:14)**

*And three, as a local guy (**Shanghainese**), I **care** about the **real estate price** and the property market (**residential**, not commercial).*

*So, you will find that when it comes to **luxury apartments**, the **price of real estate** in **Xintiandi** will lead the price and trend in **Shanghai.***

*I **mean**, the **true luxury apartments** in the **city centre of Shanghai** is **Xintiandi**.*

*All the other **real estate companies** **developed** the **luxury apartments** after*

***Xintiandi**, **following** **Xintiandi's standards**".* **(video: 06:27)**

P93-QCU-W-03: "*The **purpose** of **Xintiandi** was a **real estate development**, basically.*

*I'll **tell** you a story not many people know. In 2000, **Shui on Land** was a **small company** in **Hong Kong**. Their **status was not very good**.*

*The chairman tried to **invest** all his **resources** in this **project**. If he failed, he would have lost everything. **At that time**, **developers** in **Shanghai** were very **uncertain**.*

*So, the purpose, **I think**, was to **invest** in a **high-risk potential** to **enter** **the market** that was not developed yet and **try** to **make** a **profit** out of it. It was a **bet** on the **real estate of the mainland**. A real estate speculation that paid off so big because they **caught the right time**".* **(video: 08:07)**

P93-QCU-W-04: "*I'm **old-fashioned**, I **like** **classical** **architecture**. So, **this mixture** is more **complicated** for me to **tell**.* **(video: 09:31)**

For me, the first stage of this ***commercial area of Xintiandi*** *is very* ***strange***, *because it's not like the* ***French Concession***. *I mean, the* ***streets*** *in the* ***French Concession*** *are* ***different***. *The architect* ***combined*** ***architectural styles from Zhejiang*** *and* ***Jiangsu*** *provinces.* ***It*** *is a* ***new style***. **(video: 10:25)**

So, in the ***commercial area***, *they* ***combined*** ***Chinese and European Styles***. *Chinese on Shanghainese* ***elements***.

But for ***Phase One of residential***, *they* ***did*** *a* ***typical Hong Kong style***".

P93-QCU-W-05: "*From* ***here*** *you can* ***see*** *the* ***K11 tower***. **(video: 11:55)**

It is my former office".

P93-QCU-W-06: "*To be* ***honest***, ***Xintiandi*** *has* ***too many tourists***. **(video: 13:21)**

I like *the* ***former French Concession*** *more, and* ***that's why*** *I* ***live*** ***there***.

It is ***very quiet***. ***Designed*** *for residents (***he likes it***)".*

(Part of P93-QCU-W-05) "***I think*** ***trees*** *are really good (***he likes it***).*

Look *at these* ***trees***. **(video: 14:08)**

Here, you clearly ***see*** *that* ***Xintiandi's purpose*** *is* ***commercial***. **(video: 14:42)**

This is the priority: ***commercial purpose***.

But ***after*** *the first serious* ***success***, ***I think*** *they* ***added*** *more things to the* ***cultural development.***"

P93-QCU-W-07: "*It is a* ***perfect place*** *for* ***dating*** (**he likes it**). You ***see*** *this* ***place***. **(video: 15:18)**

Perfect for dating, ***I remember*** *the lamb chops were very good (***he likes it***).*

There's a ***place*** *only for Shui On Land* ***private banquets***. *A* ***single house*** *like this, but* ***more beautiful*** (**he likes it**). **(video: 16:30)**

Xintiandi, No. 1. ***I've been*** *several times. Lots of very* ***interesting*** ***private events*** there."

(Part of P93-QCU-W-05): "*This is* ***Qing Dynasty Style*** (interior design). **(video:17:36)**

Here *behind is* ***Xintiandi No. 1*** *building*". **(video: 19:48)**

(The following question was answered using the tool: *Emotion-naire Cards*)
(The details of the group's content, shown within brackets, were added using the FloatingvCamera and the interviewer's notes)

P93-QCU-T-01: "***transport*** *(including* ***nodes***, ***paths***, *and* ***type of transport***); ***natural*** *(including* ***weather***, ***green features***, ***water features***, *and* ***animals***); ***business*** *(including* ***buildings***, ***landmarks***, ***places***, ***things***, *and* ***urban furniture***); *and* ***behaviour*** *(****social activity****).*

(The following question was answered using the tool: *Emotion-naire Cards*)

P93-QCU-T-02: "*When* the ***sun rises***, *I* ***use*** *the metro to* ***go*** *to a* ***coffee shop*** *and to* ***have*** *a* ***light breakfast***, *probably a* ***latte*** *with a* ***croissant***, *then* ***walk on*** *the* ***pedestrian streets***, around the ***lake*** (**he knows** the **lake is man-made**) *and visit the* ***gallery***. *At lunch time* ***going*** *to the* ***Langham Hotel*** *for brunch* (**he likes very much** their **buffet**), ***there*** *I will* ***have*** *different* ***drinks*** *and* ***food***, *after lunch I will* ***go*** *to the* ***shopping mall***, *to* ***buy*** *some* ***small items*** *and after* ***shopping*** *I will have a glass of* ***white wine*** (**he likes it**) *and* ***enjoy*** the ***sunshine***, *just* ***like Europeans*** (**he likes it**). *For* ***dinner,*** *maybe there's a* ***concert event or cultural activity*** *in* ***Xintiandi No. 1*** (**he likes** *to be part of the* **culture elite**), *after that I will* ***go*** *to a* ***tea house*** *to* ***play cards*** *with friends until* ***night*** *...Oh, I forgot one: It is* ***better*** *to* ***live*** *in* ***Xintiandi*** (**he is joking**)".

(The following question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-03: "*I'm a person who* ***comes to drink*** ***wine***, ***coffee***, *have some* ***food*** (**he likes food and beverage**), ***invite clients*** (**he likes socialising**). *Basically, I* ***come*** *when* ***I need*** *to* ***eat*** *and* ***drink***".

(The following question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-04: "***I think it*** *is* ***complex***. *It* ***combines too many concepts*** *in this* ***place***. *So,* ***I think*** *it's* ***valuable as*** *a* ***lifestyle centre***, *a* ***tourist and activity centre***".

(The following question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-05: "*As I told you,* ***I know Xintiandi*** *as a customer* ***because*** *my* ***office*** *was in the* ***K11*** (nearby), *so I* ***come*** *here every day.*

I also have some ***inside information*** *because my mom* ***worked*** *for* ***Xintiandi*** *as a* ***PR manager*** (public relations) *for* ***special events*** *and* ***projects*** (**cultural events**)".

(The following question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-06: "*My* ***experiences*** *were mainly about* ***having food*** *and* ***drinks***, *a*

place to make conversation, and socialising".

(The following question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-07: "*It's a relationship of convenience*" (**he feels pleasant there**).

(The following question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-08: "*I was born and grew up in Shanghai, I studied finance and I joined a company cooperating with BNP Paribas, which I still work for* (**he feels proud**)*, so I get used to meeting with foreigners and sophisticated Chinese people, so I go almost every day to eat outside for meetings or socialising and that's why I am very familiar with Xintiandi*".

(The following question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-09: "*It was perfect timing for governments and investors.*

The ambition of the Hong Kong developer. They started just with this area: the land for the commercial project with several buildings for Phase 1. After they made huge profits, they expanded their scale maybe 6 - 7 times. So Xintiandi has now Phase 1 to Phase 7, with at least three main parts for the commercial area and all the rest for high-end residential.

***Other real estate developers** also **came** to this **district** to **build** more **luxury apartments**, and **I think** this **matches** the municipal government's **purpose**, because they **wanted to attract** the richest people around **China** and **Hong Kong** to invest here, **offering** the **best location** and conditions to them.*

*But it's **expensive** because they **moved** the middle-class people* (**previous community**)*; they **destroyed** some **buildings** and then **built** large **luxury apartments**. **Xintiandi** is a **policy** and a **vision** from the leaders of Shanghai*".

(The following question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-10: "*I already mentioned*". (First, his **mom worked** for **Shui On Land** as an **event's PR manager** in **Xintiandi No.1**. He is **proud** of **being part of that community.** Second, **he worked** nearby at **K11,** so he visited Xintiandi as **a customer very often**. He **likes going there**. Third, he is **very interested** in **Shanghai's property market** for **top residential projects**. He is **fascinated by it**).

(The following question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-11: "***Natural** is the **plane trees because** the **lake is fake**.*

Architectonic *is the* ***lanes*** *and* ***buildings*** *where all the* ***commercial shops*** *and* ***restaurants*** *are.*

Culture *is the* ***life that people bring***, ***local people*** *like me* ***coming for eating*** *and* ***drinking***, *and* ***tourists coming to visit*** *and* ***take pictures***".

(The following question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-12: "*The* ***emotion*** *I had when I* ***visited*** *the* ***residential projects of Xintiandi*** *for the* ***first time*** *was of a* ***brighter future*** (**he felt excitement**). *This was the* ***first time*** *I* ***saw*** ***luxury apartment projects****: very high-end, more than before. So, it* ***represented the future***. ***China's future***, *and* ***my future*** (**he feels proud**).

Architecturally, ***I think Xintiandi's residential*** *and* ***shopping mall*** *are* ***80% modern, not classical***, *in a* ***Hong Kong way***, *so even if they have classical components, it's* ***hard to find*** *an* ***original style****. The style is not Baroque, not classical, not French, not Shanghainese. I* ***prefer*** *the* ***real French Concession*** (**he likes the former French Concession**).

Culturally, it is a ***touristic place****. For example, in the* ***French Concession***, *the* ***houses*** *are* ***separate*** *with their* ***own garden***, *totally* ***independent life****; these are* ***really top places***, *the* ***homes*** *of* ***real Shanghai's elites****. The people who* ***live*** *in* ***Xintiandi's luxurious apartments*** *are* ***new money people***, *they are surrounded by many people, including* ***tourists***, *so I am* ***not interested*** *in* ***living here***, *but I* ***am happy*** *to* ***come*** *for* ***drinking*** *and* ***eating*** *anytime*".

(The following question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-13: "*As I said, the* ***lake*** *is artificial,* ***Shui On Land made it***, *so I don't* ***count*** *the park as* ***nature***, *even the* ***trees*** *were* ***brought*** *here from other sites. If I had a* ***chance*** *to* ***develop real estate business here*** (**typical city user feedback**: **speak** as an **uninvolved**), *the* ***most important thing*** *is its* ***location***. ***Location, location, location*** (this ***sentence is popular*** within ***real estate development's context***). *So, personally, I* ***will not think*** *about* ***using*** *this* ***land*** *for an* ***artificial park***; ***Shanghai has many parks***. *But I* ***cannot deny*** *that* ***this park created*** *a* ***successful image*** *for people who want to* ***be here*** (**he knows people like it**). *They* ***want*** *a* ***park*** *with* ***trees*** *and a* ***lake****. A* ***peaceful residential area***, *where they can* ***walk*** *between* ***gardens*** *and* ***animals***.

Culturally *and* ***architecturally***, ***before WWII***, *this* ***area*** *was for* ***middle-class people***. *There were* ***lots of different lanes***. *In some lanes, you could* ***park a car***.

*Many locals **had** **cars** and **single houses*** (the entire Lilong house for one family). *At first, maybe one family **occupied** **one unit**; in **the 30s** the **conflict with the Japanese started**, ended with the **1937 occupation**, lots of people outside the **French concession** and the **International Settlement** **came** inside to be **protected**. For **some of these middle-class families**, this was a **way of making money and helping people**, so they **used** **one floor** for their family and **subdivided** the **other floors** for people who **wanted*** to ***live** **there**. If you **watch** old films, you can find it.*

*Beside the **architectural style** that those **lanes houses represented**, **These house inside** **became*** by ***1940's small apartments**, **very crowded*** (he mentioned ***with sorrow***). *So, culturally, before **Xintiandi's redevelopment, this area represented*** the ***crowded, outdated, middle-class' improvised apartments from the WWII period**. After **Xintiandi's Phase 1 to Phase 7**, these **apartments** represented the **successful social class of China**, not only in **Shanghai**. Even people from the **US** and **Europe** have **bought** properties in **Xintiandi***".

(The following question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-14: "*The biggest number of users are visitors. They are looking for **exploring** the **place**, and probably **eating, drinking, or take pictures**. These are the most popular users. They are **usually middle-class***.

*The second is workers. **Xintiandi*** is a ***place for commercial activities**. A **place** for **casually inviting** clients from **other provinces of China**, or **from overseas**, so they can **experience** some **traditional Shanghainese buildings**, in a **vibrant pedestrian street** with **plenty of options** to **enjoy**. As for the people who are **attending** these **commercial places,** they are the typical **working class***.

*For the residents, in **luxury apartments**, they **like Xintiandi's location** but **probably** they **socialize** more often in **high-end places that are less crowded**, like **the Bund** and **French Concession***".

(The following question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-15: "*For the residents, less visitors* (a **wish** for **tranquillity**); *for the visitors the best quality services at a cheap price* (a **wish** for **experiences**); *for the workers more visitors and a better salary* (a **wish** for **profitability**)".

(The following question was answered using the tool: *Structure-naire Canvas*)

P93-QCU-T-16: "*For the government, **25–35 years ago**, they **thought** that this **central location** was so close to Huaihai Road and lots of office buildings for*

*international companies, so the Lilong there, at less than 200 meters, were **projecting** a **poor image of Shanghai**. So the government **wanted** to **change** **this area**. They **wanted** to **change** the **image of Shanghai**, and **Xintiandi** was at the beginning and **heart** of that **vision**. So they **moved** **out** of the **poor neighbourhoods** and **redesigned** **Xintiandi** as a **new international image for Shanghai**.*

*For the developers, the **objective** was clear, to **make** a **successful real estate operation**, to **make** **money**. But to **get** the **license**, they had to **present** a **proposal** to the government and **try to align** **their vision** (**make** **money)** with the government's' vision (**improve** **Shanghai's image**), which included **leveraging** the **building** of **the first CCP meeting**.*

*For the designer, I **don't think** that at **that period** the developer could afford a top designer, so I **don't think** **Xintiandi** is a **master piece**, but the **scale** is **right**.*

But for all of them (governments, developers and designers) ***Xintiandi** is a **big success**!*

*As for me, I am a customer, **free to come** or not. But **I think** the governments and developers **want** visitors and residents to **keep** their **success**, and these two **bring** workers*".

26.1.4. Identified Cities' PIDs of P94

P94-QCU-W-01: "*That's a hard question, recently I didn't come often. But when I was younger, I did it quite often. Maybe I come now one time per week*".

P94-QCU-W-02: "***Xintiandi** is a **fashionable place**. But it still has the **traditional buildings**. It's **meaningful** for me **because** I was born in Shanghai and my **primary school** was near **Xintiandi**, so that was my **neighbourhood at that time***".

P94-QCU-W-03: "***I think** the government **wanted** to **make** **Xintiandi** a **symbol**, with **Shanghai's traditional culture** in a **modern way**. And I know, **Xintiandi** is a **symbol of China**, even for the outside world. Most people **inside** and **outside China**, maybe people who have **never** **been** to **Xintiandi**, **know** about **Xintiandi**. If you **talk** about **Shanghai** with **Chinese or Foreigners**, most likely they **know** about **the Bund** and **Xintiandi***".

P94-QCU-W-04: "*I don't know how to explain this*".

P94-QCU-W-05: "*Well, you can **see** a **lake** there, that didn't exist before. That was*

another Shikumen that was demolished.

This big museum was not here either. They (the government) just built this because people from all over China wanted to come here to visit this place where the CCP (Chinese Communist Party) *first met. They meet in this little lane house. That's why the government wanted to make this place bigger as a symbol of Shanghai.*

These buildings are residential apartments, very expensive apartments, but I prefer the Shikumen.

This is the shopping mall. The developer of Xintiandi is from Hong Kong, so he brought this typical Hong Kong Shopping mall to Shanghai with luxury brands and restaurants. But the central zone of Xintiandi is that area with bars, restaurants, and shops, like the typical Shanghai neighbourhood with people in the lanes talking, eating, and playing (he likes this).

For the city and for locals, these outdoor spaces are very good places for meeting and socialising.

This fountain is a tourist destination. That's why recently I don't come as often as before to avoid this touristic feeling. I prefer the restaurants behind that lane (he likes restaurants *that are less visible and mainly* chosen by locals)".

P94-QCU-W-06: "*The old, traditional Shanghai Shikumen buildings, with some restaurants and some bars inside. That's my favourite! I like that very much!*".

P94-QCU-W-07: "*That's a hard question. I want* to *give you a clear answer* (he is *making an effort* to *comply* with all the questions). *Maybe just walking in Xintiandi, going through the old buildings. Because the government renewed these buildings, but also kept their old look. Walking along Taicang Road, near Madang Road, is a good experience for me* (he likes it very much). *It reminded me of when I was a little boy walking in the streets of Shanghai* (he has nostalgia).

The Shikumen style is very special to me because I was born here (as Shanghainese he feels identified with the Shikumen lifestyle). *When I was little, I lived in Xujiahui. Now I live near Madang Road. The building I lived in as a child is still there. So, this place keeps the flavour. It's special for Shanghai*".

P94-QCU-T-01: "*I'm not sure. Maybe not very clear for me*".

P94-QCU-T-02: "*In my heart, if everybody in Xintiandi spoke Shanghainese, that would be ideal. Because for me, Xintiandi is a symbol of Shanghai tradition.*

*Today, **it mixes too many cultures**. I don't even know **how to introduce Shanghai to foreigners**. **it's too complex*** (**he has nostalgia**).

*So maybe **I would keep** more **local Shanghai culture here** if I can* (**typical city user feedback**: **speak** as an **uninvolved**). ***I wish** to **keep** the **old Shanghai traditions**, **because** we are **losing them** very fast. **Maybe** my grandson **will have no sense** of **Shanghainese traditions**. **Xintiandi** is a **famous symbol**, but **maybe** it **could do more** to protect cultural traditions**".

P94-QCU-T-03: "*I am **proud Shanghainese***".

P94-QCU-T-04: "*It's a **place** in the **city centre of Shanghai**. A **fashionable symbol combining** many things... **too many cultures, too complex***".

P94-QCU-T-05: "*From **studying** nearby **as a child***".

P94-QCU-T-06: "*We already **talked** about it; **I like** to **experience** being in the **streets of my childhood** with people **carrying on with their lives outdoors** with **today's standards***".

P94-QCU-T-07: "*Same as the previous answer, right?". P94-QCU-T-08: "This is hard, I don't know how to say this*".

P94-QCU-T-09: "*It is an **old neighbourhood** of **Shanghai** that the government **wanted to renovate** to **make** it a **symbol of the city** related to Shanghai culture, because the **Bund** is a **symbol of British influence***".

P94-QCU-T-10: "*Besides what we already talked about, I don't know what else to say*".

P94-QCU-T-11: "*Natural elements are the **soil**, the **trees**, for **Shanghai** and **Xintiandi** are the **wutong trees*** (plane trees).

*Cultural element. You know **Shanghai has a different personality than** the **rest of China**. I think **Xintiandi** is the **personality** of the **Shanghainese**. **Sometimes elegant, sometimes loud**.*

*The most important **architectural** element is the **Shikumen style**. The **Communist Party*** (CCP)***'s first meeting** was in a **Shikumen building***".

P94-QCU-T-12: "*Emotions: maybe it's not very accurate, but **I need to talk about** the **old lifestyle**, everyone **can enjoy***. (**nostalgia**)

*Actions: it is **good** to **meet** friends, because I am **here**, **I feel** it is a **friendly place**,*

we can even talk with strangers. (**he likes it**)

*Ideas: **Xintiandi** makes me **think** about my **childhood community*** (**Lilong's lanes**)".

P94-QCU-T-13: "***Xintiandi's original neighbourhood had red brick buildings** with **white plaster lines**, very **different** from **northern Chinese buildings**.* (**he is proud of Shanghai's architecture**) *I have a **childhood memory** of **peeling this plaster** with other children just **for fun*** (**happy memory**)".

P94-QCU-T-14: "***Foreign visitors** or **Chinese from other provinces are tourists**, **don't always understand its true meaning**, but they probably **enjoy the space**. Workers, some **are busy**, **have no time to enjoy**, but others who **run shops** here **want to show** what they **are good at*** (**sell products and services**).

Xintiandi has too much commerce**, so it is the same as **many other places** for those who **work here**, **no time** for **thinking** or **enjoying (**working culture**).

*For the residents who **live** in the **old Lilongs*** (still some), ***life is hard**; they have to **do everything** in a very **small space**. The **new residential** is **very luxurious*** (he **implies life** is **easy** for them)".

P94-QCU-T-16: "*The government **wants to make money**; the government is **like** a **big company**.*

*The **developer** is **from Hong Kong*** (the **company**). *They don't know about **Shanghai's architecture** and **do everything** to **make money*** (the purpose), *so they **ruin** the **old neighbourhood** of **Xintiandi*** (**nostalgia** connected with **frustration**).

*Architects **may*** (he is not sure) ***want to do something good*** (***architecture***), *but they **have little power**. In **Asian culture**, they **don't have** the **right to decide**; they **can only make suggestions*** (he **sees architects** as **working class struggling** *with the* **power**)".

26.2. Assessing participants' expectations for desirable urban experiences through identified *Cities' PIDs*

In this analysis subsection, *Desirable Cities* extracts each participant's expectations for their desirable urban experiences within the field of research into a simplified form using the previously identified participant's *Cities' PIDs*. By focusing only on keywords of *natural*, *cultural*, and *constructural* elements, as well as core emotions, actions, and ideas,

Desirable Cities highlights the *metonymic* and *metaphoric* associations. The plus symbol (+) represents metonymic chains, simply linking elements that coexist, while an equal sign (=) represents a metaphor, showing how these combinations symbolise broader *phenomenological imaginaries of desire* for the participants. In this way, *Desirable Cities* aims to make participants' expectations for urban desirability clearer and more explicit, grounded in their own words and experiences.

26.2.1. *P91*'s expectations for *desirable* urban experiences

P91-QCM-W-02:

Xintiandi** + **represents** + **1930s Shanghai** = **attraction

P91-QCM-W-04:

Xintiandi** + **composition** + **old** + **new

Xintiandi** + **composition** + **trees** + **human scale

Xintiandi** + **composition** = **relaxation Xintiandi** = **community life** = **lane feeling

Xintiandi** = **outdoor community culture** = **Lilong feeling Xintiandi** + **feeds** + people + **imagination

P91-QCM-W-05:

Xintiandi** + **first image** + **red brick building** = **attraction

People + ***like** + **Xintiandi** = **looks Lilong***

Restaurant** + **ground floor** = **lane feel** = **neighbourhood Lanes** + **balconies** + **windows** = **attraction

Façade** + **typical style** + **Shikumen building Balcony** + **wood** = **attraction

Trees** + **improve** + **street** = **French Concession feeling** = **attraction Chinese Style** + **1900s** + **used** + **grey bricks** = **attraction

Victorian Style** + **1900s** + **used** + **orange brick** = **attraction

Shanghai 1900s** + **Walled City** + **British Settlement** + **Haipai Style emerged** + **using** + **grey bricks** + **orange brick

Composition** + **Western culture** + **Chinese culture

P91-QCM-W-06:

Xintiandi No.1.** + **special architecture** = **high attraction

P91-QCM-W-07:

Xintiandi No.1 + *exclusive party* + *Shui On Land* + *famous artists* + *famous designers* + *governments* = *elite lifestyle* = *pride*

P91-QCM-T-01:

Things I like = *sun*, *wind*, *grass*, *trees*, *birds*, *dogs*, *cats*, *classical buildings*, *power banks*, *drinking coffee*, *walking*, *walking my dog*, *eating*, and *chatting with friends*

P91-QCM-T-02:

Shikumen = *desirable home*

Shikumen + *sunny day* + *walking my dog* + *coffee shop* = *desirable activity*

Shikumen + *cloudy* + *reading* + *checking my phone* = *desirable activity*

Shikumen + *wind and rain* + *smoking* = *desirable activity*

Rainy day + *exhibitions* = *less crowded* = *comfortable Shikumen* + *dinner* + *eating* + *noodles* = *favourite dish*

P91-QCM-T-03:

traditional + *architect* = *favourite identity*

P91-QCM-T-04:

Human scale = *friendly atmosphere* + *comfortable scale Xintiandi* + *human scale* = *pleasantness*

P91-QCM-T-05:

Shanghainese = *know Shanghai* = *pride*

P91-QCM-T-06:

Xintiandi + *architecture* + *culture* + *1930s to 2010s* = *interesting exploration*

P91-QCM-T-07:

Prestige client = *pride*

P91-QCM-T-08:

Yuyuan Road = *1930s Shanghai's history* = *well-designed buildings*

Growing up + *Yuyuan Road* = *became familiar* + *well-designed buildings* =

chose + *architectural career* = *passion*

P91-QCM-T-09:

Xintiandi = *Chinese Communist Party's first meeting Xintiandi* = *Shanghai's city centre*

Xintiandi + *before 2000* = *underdeveloped area*

Shanghai 2000 + *governments* + *want* + *improve* + *Shanghai's image*

Improve + *Shanghai's image* = *modern development*

P91-QCM-T-10:

Architecture + *classical elements* + *nature elements* = *attraction*

Xintiandi + *Chinese Style* + *Victorian Style* + *traditional streets* + *courtyards* + *childhood atmosphere* + *trees* + *shade* = *enjoyment* = *high attraction*

P91-QCM-T-11:

Courtyards + *lanes* + *trees* = *shadow* + *breeze* = *natural elements*

Courtyards + *lanes* + *social activities* = *childhood* = *cultural elements*

Courtyards + *lanes* + *red brick* + *columns* + *balconies* + *gates* = *Shikumen* = *built elements*

P91-QCM-T-12:

Natural elements = *peacefulness* = *relaxation* = *growth*.

Culture elements = *happiness* = *explorations* = *adventure*.

Built elements = *artistic feeling* = *learning* + *studying* = *architectural principles*

P91-QCM-T-13:

Natural references = *weather* + *trees* + *activities outdoors* = *comfortable*
Xintiandi's natural references = *channelling* + *soft wind* + *trees* + *providing* + *shadow*

Cultural references = *China's last 100 years* = *admiration*

Xintiandi's cultural references = *Hong Kong's real estate* + *Shanghai's Lilong*

Architectural references** = **1910 to 1935 architecture** = **high attraction

Xintiandi's architectural references** = **Hong Kong's outdoor shopping areas** = **China's 2008 Olympic Games architecture

P91-QCM-T-14:

*Governments' **drive** = **power***

*Real estate developers' **drive** = **profits***

*Designers' **drive** = **dreams***

*Builders' **drive** = **income** = **hard-work***

P91-QCM-T-15:

*Governments' **objective** = **wanted** + **to change** + **Shanghai's** + **image** + **rebuilding** + **Xintiandi***

*Governments' **outcomes** = **increased** + **land's value** = **increased** + **revenue** = **reinvesting** + **city's infrastructure** = **feel proud***

*Real estate developers' **objective** = **wanted** + **to find** + **good opportunity** + **high profit***

*Real estate developers' **outcomes** = **become** + **successful** + **prestigious** + **real estate market** + **win** + **new lands** = **feel proud***

*Designers' **objective** = **wanted** + **to participate** + **unique** + **project***

*Designers' **outcomes** = **become** + **successful** + **prestigious** + **design market** + **win** + **new contracts** = **feel proud***

*Builders' **objective** = **wanted** + **to complete** + **work***

*Builders' **outcomes** = **become** + **successful** + **prestigious** + **construction market** + **win** + **new contracts** = **feel proud***

P91-QCM-T-16:

*Governments' **cultural resources** = **Confucianism** = **power***

*Governments' **constructural resources** = **new knowledge** + **free economic model***

*Real estate developers' **constructural resources** = **experience** + **Hong Kong mixed-use projects***

*Designers' **constructural resources** = **knowledge** + **international***

architectural styles

Builders' ***cultural resources*** = ***hard work culture***

P91-QCM-T-18:

Governments' ***cost*** = ***spent*** + ***understanding*** + ***planning*** + ***Shanghai's development*** + ***to allow*** + ***free market's real estate*** + ***to contribute***

P91-QCM-T-19:

Governments' ***training*** = ***education system*** + ***economics*** + ***urbanism*** + ***sustainability*** + ***Chinese culture*** + ***infrastructure*** + ***better living***

P91-QCM-T-20:

Xintiandi's cost = ***infrastructure*** + ***old residents' relocation***

P91-QCM-T-21:

Xintiandi's maintenance = ***management fees***

P91-QCM-T-24:

Xintiandi's *residents* = ***want*** + ***to live*** + ***prestigious project*** + ***city centre***

Xintiandi's *commuters* = ***work for*** + ***financial and international companies*** + ***luxury brands*** + ***food and beverage*** + ***want*** + ***good job*** + ***good salary***.

Xintiandi's *visitors* = ***Chinese*** + ***foreigners*** + ***want*** + ***good experiences***. ***Shanghai want*** + ***Xintiandi's lifestyle***

26.2.2. P92's expectations for desirable urban experiences

P92-QCM-W-02:

Xintiandi + ***fashionable*** + ***traditional buildings*** = ***cultural identity*** + ***attraction***

P92-QCM-W-03:

Xintiandi + ***modern*** + ***traditional*** = ***Shanghai's culture*** + ***symbol Xintiandi*** = ***Shanghai's symbol*** = ***Shanghai's branding***

P92-QCM-W-04:

Bars + ***restaurants*** + ***shops*** = ***socialising*** + ***enjoyment***

Bars + ***restaurants*** + ***busy*** = ***vibrancy***

Fashionable + *mix of functions* = *leisure* *destination* = *attraction*

P92-QCM-W-05:

Historical place + *large new museum* + *lane between* = *outdoor museum* = *staged heritage*

Lake + *residences* = *comfort*

Xintiandi's Phases 1–5 + *expensive residential* + *central location* = *prestige* + *status*

Shopping mall + *typical design* = *conventional retail*

Lane + *shops* + *pedestrian* = *preferable experience*

Fountain + *tourists* = *spectacle*

Summer + *trees* = *shade*

Winter + *trees* = *sun*

Xintiandi's trees = *seasonal thermal comfort* = *pleasantness*

Lilong + *detached villa* = *uniqueness*

Preserved Shikumen = *identity attachment* = *attraction*

P92-QCM-W-06:

Shikumen + *childhood memory* = *nostalgia* + *attraction*.

P92-QCM-W-07:

Xintiandi + *Christmas ritual* + *father–son* + *ice cream* + *conversation* = *bonding* = *desire* + *nostalgia*

P92-QCM-T-02:

Sleep late + *brunch* + *coffee* + *chatting with friends* + *live-concert* = *social leisure* = *relaxed day*

P92-QCM-T-03:

Love of architecture + *humbleness* = *professional aspiration*

P92-QCM-T-04:

Beyond basic functions + *resonates* + *public's imageries* = *place attachment* = *shared identity*

P92-QCM-T-05:

Xintiandi + *just open* + *few people* = *exploring* = *calm*

P92-QCM-T-06:

Lilong renovation + *case study* = *professional reference* + *renovation project*

P92-QCM-T-07:

Working = *tired mind*

Walking = *inspired mind*

Walking + *Xintiandi's open spaces* = *mind's stimulation* = *mental restoration*.

P92-QCM-T-09:

Prime location + *desired renovation* = *impetus for change*.

P92-QCM-T-10:

An architect couple + *post-completion visit* = *shared professional exploration*.

P92-QCM-T-11:

Endurance + *human-made* + *embedded in wider system* = naturalisation

Xintiandi + *Collective subconscious* + *identity expression* = *part of Shanghai's culture*

P92-QCM-T-12:

high-end image + *sense of uniqueness* = *status aspiration* = *youthful desire to live in Xintiandi*

Time + *softened wish* = *tempered aspiration*

P92-QCM-T-14:

Governments' drive = *vision*

Real estate developers' drive = *profits*

Designers' drive = *ideas* *Builders' drive* = *craftsmanship*

P92-QCM-T-15:

Governments' objective = *Shanghai's representative image*

*Real estate developers' **objective** = **strategic opportunities** + **profitability***

*Designers' **objective** = **professional ambition***

*Builders' **objective** = **successful participation***

P92-QCM-T-16:

*Governments' resources = **central policy direction***

*Real estate developers' resources = **Capital***

*Designers' resources = **professional knowledge***

*Builders' resources = **craft***

P92-QCM-T-21:

Income** + **viable commercial model** + **supportive context** = **maintenance** = **business sustainability

P92-QCM-T-24:

Xintiandi's** residents = **want** + **status** + **identity** + **supporting services

***Xintiandi's** commuters = **want** + **quality-of-work-space** + **convenient** leisure*

*Residents **satisfied** + workers **satisfied** = **Xintiandi's** visitors **satisfied***

26.2.3. P93's expectations for desirable urban experiences

P93-QCU-W-02 / 05 / 06 / 07:

My mother's work** + **insider participation** = **belonging** = **cultural capital

My nearby office** + **daily visits** = **convenience** = **habitual social use

My fascination** with **real estate** + **Xintiandi's luxury apartments** + **leading Shanghai's prices** = **trend leadership** = **status symbolism

P93-QCU-W-03:

High risk investment** + **right timing** + **real-estate bet** = **successful development** = **high profit

P93-QCU-W-04:

***Authentic classical architecture** = **attraction**.*

Xintiandi** + **Chinese Styles** + **Jiangsu/Zhejiang influences** + **European styles** = **hybrid identity

Residential Phase One + *Hong Kong style* = *market innovation*.

P93-QCU-W-05:

First shop + *restaurant* + *Mediterranean cuisine* + *restaurant* + *European street design* + *outdoor seating* + *chairs* + *umbrellas* = *felt in Europe* = *attraction* = *nostalgia after it closed*

Trees = *attraction*

Commercial priority + *cultural add-ons* = *consumption-led place-making* = *touristic place*

P93-QCU-W-06:

Xintiandi = *tourist place*

Former French Concession + *authentic classical architecture* + *quiet streets* = *preferential residential qualities*

P93-QCU-W-07:

Xintiandi's restaurant = *perfect place for dating* = *attraction*

Xintiandi No.1 + *private banquets* + *heritage ambience* = *prestige experience*

P93-QCU-T-02:

At morning, sun + *metro* + *coffee shop* + *latte* + *croissant* + *pedestrian streets* + *lake* + *gallery* = *sophisticated lifestyle*

At noon, Langham brunch + *shopping* + *white wine* + *sunshine "like Europeans"* = *enjoyment*

At night, Xintiandi No.1 + *concert* + *tea house* + *playing cards* = *socialising* + *entertaining*

European lifestyle = *high attraction*

P93-QCU-T-03 :

Customer = *enjoying food and beverages* + *inviting clients* + *socialising with friends* = *lifestyle utility* + *convenience*

P93-QCU-T-04:

Xintiandi + *many architectural styles* + *trendy lifestyle centre* + *tourist hub* = *complex place* = *cosmopolitan hub*

P93-QCU-T-08:

Shanghainese + studied finance + cooperating with BNP Paribas + meeting foreigners and sophisticated Chinese + eating outside often = familiar with Xintiandi = pride

P93-QCU-T-09:

Ambitions for changes + middle-class relocation + perfect timing + huge profits + attracted elites = upscale urban transformation

P93-QCU-T-11:

Plane trees = natural elements

People's activities = cultural elements

Lanes + buildings = built elements

P93-QCU-T-12:

First visit + luxury residential + modern style = brighter future = pride

Xintiandi today + touristic character = unimpressed

Favourite = former French Concession + detached houses + own garden = authenticity preference

Xintiandi's residential + Xintiandi's commercial + Hong Kong approach = new developments standard

P93-QCU-T-13:

Park + lake + trees + animals + residences = peaceful + desirable

Xintiandi's lake + man-made = profitability loss

middle-class Lilong + war periods = environment degradation + desire urban redevelopment

Urban redevelopment + middle-class relocation + real estate gentrification = urban transformation = new urban identities = attraction

P93-QCU-T-14:

Residents = *like Xintiandi's location + prefer socialising + the Bund +*

French Concession = high class

Commuters = *attending* customers = *typical working class*

Visitors = *exploring* + *eating* + *drinking* + *take pictures* = *popular* users + *usually middle-class*

P93-QCU-T-15:

Residents + *want* + *tranquillity*

Commuters + *want* + *profitability*

Visitors + *want* + *experiences*

P93-QCU-T-16:

Government + *wanted* + *to change* + *old neighbourhoods' image* + *new international image*

Real estate developer + *wanted* + *to make* + *high profits*

Designer + *wanted* + *to design* + *right scale*

26.2.4. *P94*'s expectations for desirable urban experiences

P94-QCU-W-02:

Fashionable place + *traditional buildings* = *symbolic of my childhood* = *meaningful*

P94-QCU-W-03:

Government vision + *cultural modernisation* + *Shanghai's international image* = *city branding*

P94-QCU-W-05:

Replacing Shikumen + *made lake* + *new CCP's museum* = *heritage staging* = *spectacle*

Residential towers + *very expensive* = *luxury living symbol*

Hong Kong Style mall + *luxury brands* + *restaurants* = *consumption core*

Lanes + *bars* + *restaurants* + *people talking* / *eating* / *playing* = *local sociability*

Fountain + *tourists* = *touristic feeling* = *avoidance*

Hidden Lane's restaurants = *local authenticity*

P94-QCU-W-06:

Shikumen + *food / drink venues* + *Shanghai's traditional outdoors vibes* = *high attraction*

P94-QCU-W-07:

Walking Taicang Rd / Madang Rd = memory pathway + Shanghainese identity = nostalgia

P94-QCU-T-02:

Vibrant outdoor community + speaking Shanghainese + keeping local traditions = protecting Shanghai's cultural continuity = wish

P94-QCU-T-03:

Shanghainese = pride

P94-QCU-T-04:

Xintiandi = Shanghai's city centre + fashionable symbol + culture mixer = "too complex" = desire + clearer local identity expression

P94-QCU-T-05:

Childhood school = memorable

P94-QCU-T-11:

Wutong (plane) trees = natural elements

Shanghainese personality = cultural elements

Shikumen style = built elements

P94-QCU-T-12:

Emotions triggered by Xintiandi = nostalgia

Actions triggered by Xintiandi = friendly sociability

Ideas triggered by Xintiandi = communal memory = Lilong's lifestyle

P94-QCU-T-13:

Xintiandi's + original neighbourhood + red brick + white plaster lines + childhood play = tactile heritage = affection

P94-QCU-T-14:

Visitors + enjoy + Xintiandi + without fully understanding

Workers + ***busy selling*** = ***too much commerce*** = ***commodification***.

Old-Lilong's residents + ***hard life*** *vs.* ***New luxury residents*** + ***comfortable life*** = ***inequality awareness***

P94-QCU-T-16:

Government and Developers + ***want*** + ***to make*** + ***money*** = ***redevelopment critique*** = ***loss of old neighbourhood*** = ***nostalgia*** + ***frustration***

Architects + ***limited power*** = ***constrained design agency*** = ***working class***

26.3. Comparative analysis of verbal data findings

This section compares the two matched pairs: *city makers* (*P91* with tools vs. *P92* without tools) and *city users* (*P93* with tools vs. *P94* without tools), to identify where their walk (W) and talk (T) answers converge and diverge. By design, all four participants share a homogeneous background (50-year-old Shanghainese men; same secondary school and university; paired by role and by tool exposure), so differences can be read primarily as effects of role (maker vs. user) and tool support (*Emotion-naire Cards*, *Structure-naire Canvas*, and *Terms-naire Tray* vs. memory and self- awareness only). As anticipated in the protocol, walk-phase responses show high convergence (tools are not used while walking). In contrast, talk-phase responses show marked divergence, where the tools scaffolded recall, structure, and details for the *tools group.*

26.3.1. Convergence and divergence from *P91*'s and *P92*'s answers transcriptions

Convergences (Walk phase):

Visit frequency and place image. Both participants visit Xintiandi roughly monthly and characterise it as a fashionable, old-new mix anchored in historical typologies (Shikumen / Lilong) and emblematic moments (CCP First meeting site).

Spatial reading. Both read the site through phasing, museum enlargement, lake addition, shopping mall vs. street retail, and tree-mediated thermal comfort (summer shade/winter sun). Each points to Shikumen as a favourite and positively notes the plane trees and harmonious human scale.

Affective anchors. Both tie Shikumen to attachment and nostalgia: *P91* admires red brick/classical composition; *P92* links Shikumen directly to childhood and a Christmas father–son ritual.

Divergences (Walk phase):

Material granularity. *P91*'s language repeatedly names styles, materials and details, e.g. Haipai, mixture of grey/orange brick, "Italian Classic Style" arches, reflecting a disciplinary eye; *P92* stays at phenomenological program (busy street, tourist flows, comfort) and place-use descriptors.

Social focus. *P91* foregrounds Xintiandi No.1 and developer-hosted private events as peak experiences (focuses on pride and status); *P92* foregrounds family-life memory (ice-cream talks with his son).

Convergences (Talk phase):

Attribution models. Both ascribe objectives along similar lines: government to image, developers to profit, designers to dreams, builders to craft, recognising Xintiandi's representational role for Shanghai.

Divergences (Talk phase) attributable to tool support:

T-01 | Organising the whole. *P91* (with tools) produces four multi-constituent clusters explicitly cross-referencing weather, green features, water features, animals, paths, nodes, transport, social activities, buildings, and urban furniture; this systems view is unlikely to be recovered from memory alone. *P92* (control) offers a binary split ("old and new" plus "places I like") with no explicit coverage of *natural*, *cultural*, *constructural* subcomponents of the field of research.

T-02 | desirable scenario. *P91* produces a time-sequenced, weather-contingent narrative, weaving times, activities, nature, culture, and spaces with emotions, actions, and ideas. *P92* offers a concise "relaxed day" thinner in linkages.

Coverage of *natural*, *cultural*, *built*, emotions, actions, and ideas. *P91* explicitly itemises *natural*, *cultural*, and *built* in T-11, and maps them to emotion, action, and idea in T-12. *P92* gives conceptual reflections but lacks parallel, card-prompted enumerations of emotions, actions and ideas, as well as omitting several context/cost/training answers, frequently replying "*I don't know*".

City makers' specificity. *P91* details objectives, outcomes, resources and costs across actors. *P92* articulates overarching aims/resources but provides limited/indeterminate cost and training detail (T-17 to T-20).

T-25 | Vocabulary support. Utilising the *Terms-naire Tray, P91* provided additional details about the field of research, such as awareness of smells and sounds that were

ignored during the open questions. In contrast, P92 assumed that the walk and talk already covered everything.

Interpretation:

For *city makers*, the *Emotion-naire Cards*, *Structure-naire Canvas* and *Terms-Tray* substantially amplified recall, structuring, and cross-linking *natural*, *cultural*, and *constructural* components of the environment with emotions, actions, and reflections, yielding denser, more actionable content (notably at T-01/02/11/12/15–21-25). The control *city maker* contributed insightful notions, but with lighter coverage and more omissions, consistent with memory-only constraints.

26.3.2. Convergence and divergence from *P93*'s and *P94*'s answers transcriptions

Convergences (Walk phase):

Visit frequency and place image. Both used to come often when younger or working nearby and now visit less frequently. Both describe Xintiandi as fashionable while retaining traditional Shikumen/Lilong cues that anchor Shanghai identity. Spatial reading. Both identify the new lake, the expanded CCP museum, the luxury residential clusters, the Hong Kong Style shopping mall, and a central zone of bars / restaurants / shops; each notes tourist pressure around the spectacle areas and values tree-mediated comfort (plane trees). Shikumen surfaces as the preferred fabric. Affective anchors. Each links Xintiandi to nostalgia and everyday sociability, e.g. *P93* recalls the early Luna restaurant's European Style terrace and memorable dates; *P94* maps childhood routes (Taicang/ Madang Roads) and Shikumen as "very special".

Divergences (Walk phase):

Preferred urbanity. *P93* frames Xintiandi as a commercial priority with cultural add-ons, embraces it as a dating and client-hosting venue, but prefers to live in the quieter former French Concession; *P94* avoids the touristic fountain and prefers hidden-lane's restaurants chosen by locals.

Socio-economic lens. *P93* narrates developer risk-taking, perfect timing, and middle-class relocation / gentrification as part of a successful transformation; *P94* voices a normative critique and contrasts old-Lilong hardship with new-luxury comfort.

Convergences (Talk phase):

Elemental triads and user scape. Both identify plane trees as the salient natural

element, Shikumen / Lilong as the built anchor, and Shanghainese personality / identity as the cultural core; both separate residents, workers / commuters, and visitors with recognisable expectations (tranquillity vs. profitability vs. experiences), albeit in different tones.

Divergences (Talk phase) attributable to tool support:

T 01 | Organising the whole. *P93* (with tools) constructs four groups covering the full spectrum, thanks to the *Emotion-naire Cards*. *P94* (control) replies, "*not very clear for me*". Offering no taxonomy.

T 02 | Desirable scenario. *P93* delivers a sequenced day, weaving urban elements and psychological responses. *P94* formulates a cultural identity wish, prioritising tradition preservation over programmatic detail.

Coverage of *natural*, *cultural*, *built*, emotions, actions, and ideas. *P93* explicitly separates *natural*, *built*, and *cultural* (T 11), and links them to emotions, actions, and ideas (T 12). *P94* lists trees / Shanghainese personality / Shikumen (T 11) and ties them to nostalgia, friendly sociability, childhood community (T 12), but with briefer enumeration and fewer cross-links. Also uncertainties appear across T 08, T 10, T 15.

Policy–economy specificity. *P93* details timing, scaling-up from Phase One to Seven, government image strategy, developer profit alignment, and resident relocation (T 09, T 16). *P94* offers a value-laden critique (government / developer "make money"; architects have limited power) with little resource/cost detail.

City users' specificity. *P93* performs a cosmopolitan consumer role yet prefers to live in the former French Concession; *P94* performs local guardianship, calling for a clearer Shanghainese presence and less commodification.

T-17 | Vocabulary support. By applying the *Terms-naire Tray, P91* provided complementary detailed information like smells he likes in Xintiandi, which were not included in his previous answers. In contrast, *P92* suggested that the interview was completed.

Interpretation:

For *city users*, the *Emotion-naire Cards*, *Structure-naire Canvas*, and *Terms- Tray* amplified structuring, recall, and cross-linking across *natural*, *cultural*, *constructural* environmental domains and emotions, actions, and reflections chains, yielding richer, time sequenced narratives and clearer user scape articulation (notably at T 01/02/11/12/14–17). The control user contributed a strong identity-preservation stance, but with lighter

coverage, limited taxonomy, and more indeterminate answers, consistent with memory-only constraints. As anticipated by the protocol, walk-phase answers converge strongly, while talk-phase differences reveal the scaffolding effect of the *Desirable Cities'* tools.

26.4. Comparative evaluation of visual findings

This section compares what the two handheld camera modes captured in the Walk phase with the *Ca(p)mera* (a participant-driven camera) vs. *Following>Camera* (a researcher-driven camera) and then contrasts the *FloatingvCamera* frames used in the Talk phase, to register each participant's interaction with *Emotion-naire Cards*, *Structure-naire Canvas*, and *Terms-naire Tray*. The goal is to read the visual material through *Desirable Cities'* criteria, including identifying *natural*, *cultural*, and *constructural* coverage of the environment, and how frames implicitly cue *emotions*, *actions*, and *reflections*.

26.4.1. Convergence and divergence from *P91*'s visual frames from *Ca(p)mera* vs. *Following>Camera*

Convergences:

Constructural dominance. Across both visual recording modes during the walk, the palette and compositions are heavily brick-led (lanes, Shikumen façades, balconies, gates, arches), with trees relegated to margins and little water/sky in frame. At human-eye height, façades are treated as planes and details, exactly the materials and styles *P91* mentioned (red/grey brick mix; classical arches; wood balconies). In both modes, the camera repeatedly returns to the lanes and the commercial units' details, visually reinforcing the predominant presence of built components within the urban environment.

Divergences:

Ca(p)mera = punctuation marks. The participant-driven frames linger on close- ups and obliques that showcase textures and junctions (tile, stone, joinery). These images feel like stop-points: the camera halts where a detail "speaks".

Following>Camera = context flow. The researcher-driven sequences are wider and longer, gliding behind the participants and interviewer (framed at the centre), along with a continuous façade and general perspective. The result is a more contiguous brick surface and a rhythm of lanes, with a general view of the sky and the trees and less micro-detail. However, the built and cultural environment (people's behaviour) remains

the predominant percentage of the visual content. This accentuates spatial syntax (paths + nodes + landmarks) over material taxonomy, complementing *P91*'s detail-oriented focus with urban context's continuity.

26.4.2. Convergence and divergence from *P93*'s visual frames from *Ca(p)mera* vs. *Following>Camera*

Convergences:

Lifestyle urbanity in view. In both modes frames oscillate between commercial frontages, pedestrian corridors, and recognisable anchors (terraces, retails frontage, skyline glimpses), mirroring *P93*'s convenience + hospitality + sociability talk. Shikumen imagery is present, but it shares space with open-sky shots and touristic set-pieces, aligning with *P93*'s consumer-cosmopolitan stance.

Divergences:

Ca(p)mera = curated amenities string. Participant-driven frames tend to punctuate places where one would stop to do something, like coffee / terrace tables, gallery / shop thresholds. These visuals foreground invitation (furniture / signage) over background morphology.

Following>Camera = wider date-path vistas. Researcher-driven sequences carry more sky / trees, and longer sightlines squares, skyline landmarks, thus amplifying *natural* + movement cues. The mode makes legible the itinerary logic between nodes (how one passes from lanes to squares), pairing well with P93's segmented narrative.

Cities' PIDs reading:

Compared with *P91*, *P93*'s visual material brings more *natural* cues (open sky, and generous tree presence at edges) into play alongside *constructural* and *cultural*-commercial layers. The *emotions*, *action*s, and *reflections* traced the excitement/ pleasure in relationship with cosmopolitan socialising activities that stimulated ideas and enjoyment, precisely as verbalised (T-02/12/14/16). In contrast, *P91* focused on architectural details of the *constructural* environment making his observation design oriented with details of composition, historical references, and associated feelings. *Ca(p)mera* captures the touchpoints of consumption; *Following>Camera* clarifies the circulation + ambience that stitches them together.

26.4.3. Convergence and divergence from *P91*'s *vs. P93*'s visual frames from *FloatingvCamera*

Convergences:

Overhead documentation of structure. The *FloatingvCamera* recorded over-the-table arrangements of the *Emotion-naire Cards*, *Structure-naire Canvas* interactions and inputs, and *Terms-naire Tray* selection, showing clearly clustered groups rather than linear lists. Visually, this makes the "whole field" explicit, with multiple stacks in constellations in one frame, supporting recall and cross-referencing during talk.

Divergences reflecting role + tool use:

P91 (*city maker*) shows four compact clusters ("*things I like*"; "*things my family like*"; "*Riverside lifestyle*"; and "*Xintiandi lifestyle*", with the last two groups following principles of urbanism) with a high interaction of *constructural* and *cultural* imagery (buildings, lanes, classic details).

P93 (*city user*) also displays four domain clusters ("*transport*"; "*natural*"; "*business"; and "behaviour"), more taxonomic and user-scape* oriented. The set tilts visibly toward commercial behaviour and movement, with *natural* and *constructural* elements serving the experience chain as attributes rather than as subjects (how one arrives, lingers, consumes, socialises). In other words, the visual grammar privileges use-cases over style/typology.

Cities' PIDs reading:

Both *FloatingvCamera* sets facilitated the post analysis of the *natural*, *cultural,* and *constructural* elements co-present at a glance, showing additional insides, like *P91*'s composition reads as an urban design inventory, whereas *P93*'s reads as an itinerary inventory. This mirrors the *city maker* vs. *city user* lenses already evidenced in *Desirable Cities* preliminary studies and these participants (*P91* and *P93*) Verbal collected data (T-01/02/11/12). The visual outcome validates the *Emotion-naire Cards*, *Structure-naire Canvas*, and *Terms-naire Tray* tools as scaffolds for helping participants to identify and communicate their expectations of desirable urban experiences, rather than mere prompts of interaction.

26.5. Comparative analysis of verbal vs. visual data findings (*tools group*)

This section triangulates the verbal and visual collected (from the *Ca(p)mera* and *FloatingvCamera*) data from each participant of the *tools group.*

26.5.1. Convergence and divergence from *P91*'s answers transcriptions vs. visual frames from *Ca(p)mera* and *FloatingvCamera*

Convergences (Verbal - *Ca(p)mera*):

Constructural primacy and detail oriented. *P91*'s walk-talk repeatedly foregrounds Shikumen façades, red/grey brick, wood balconies, arches, tiles, granite and a Chinese, Western, and Haipai (Shanghainese) composition (W-05; T-10–12). His *Ca(p)mera* frames linger on close-ups / obliques that visually select the same constructive vocabulary, including planes of brickwork, balconies, gates, lintels, and junctions, confirming a built-design gaze. The visual punctuation (stops at details) mirrors his verbal manifestations of *Cities' PIDs*

Lilong feeling at human scale. In speech, e.g., mentions of lanes and "*not a shopping mall*" are key (W-04/05). The *Ca(p)mera* compresses perspective along these lanes and doorway sequences, reinforcing a walkable, neighbourhood reading consistent with his traditional architect identity (T-03/04).

Convergences (Verbal - *FloatingvCamera*):

Whole-field structuring via cards. *P91*'s T-01 produces four groups. The *FloatingvCamera* records these as compact, legible constellations, evidencing a systems view that cross-references weather, green features, water features, animals, paths, nodes, types of transport, social activities, buildings, places, things and urban furniture exactly as it was verbalised.

Psychological responses' mapping is visible. T-11/12 enumerations *natural* = threes + shade = peacefulness = relaxation = growth; *cultural* = courtyard + storytelling = happiness = explorations = adventure; *constructural* = bricks + building = artistic feeling = learning = architectural principles. These are materially embodied in the cards; the *FloatingvCamera* makes these chains spatial (cards grouped by element type, then referenced in speech).

What the visuals add beyond the words:

Continuity of street syntax. While *P91* focus verbally on materials and styles, the *Ca(p)mera*'s run of similar façades amplifies rhythm and continuity (path - node), complementing his object-level descriptions with morphological flow. This strengthen the constructural layer of the field of research.

Cognitive economy of the tools. The *FloatingvCamera* shows few, dense piles (not scattered items), revealing *P91*'s design-inventory habit: he compacts many elements

into actionable clusters, which is a behaviour only implied in speech but made immediately legible in the overhead image.

What the words add beyond the visuals:

Air, weather, and time. *P91* narrates a weather-sequenced day (sun + cloud + rain + sun + moon) and a wind/breeze logic channelled by courtyards, which is a phenomena under-represented in frames of the *Ca(p)mera*. Also the peaceful / relaxation / growth and adventure / learning / principles ideas are felt but not directly seen.

Social status and policy economy. Elite moments (private party at Xintiandi No.1) and policy and market reflections (T-14–21) do not appear in the photographs; they expand the *cultural* and *constructural* frame far beyond what the lens can register on the street.

Divergences / blind spots:

Natural under-capture. Despite valuing trees/shade/breeze, *Ca(p)mera* gives limited green and sky presence; the visual record underplays the *natural* relative to *P91*'s emotions, actions and reflections connected to nature as peacefulness (emotion), relaxation (action), and growth (idea).

Intangibles of culture. Another example is the mention to the childhood storytelling. The *FloatingvCamera* shows their card proxies, but the lived narrative sits largely in the transcript.

Interpretation (*P91*):

Triangulation shows strong alignment between verbal constructs (materials, styles, human-scale lanes; emotions, activities, and reflections chains) and visual selection (detail-rich, façade-led *Ca(p)mera*; compact cluster geography in *FloatingvCamera*). The gap is the ephemeral *natural* and institutional economy, both primarily verbalised. Net effect: the tools convert *P91*'s tacit design knowledge into a coherent visual-verbal inventory that is immediately mappable to *Cities' PIDs.*

26.5.2. Convergence and divergence from *P93*'s answers transcriptions vs. visual frames from *Ca(p)mera* and *FloatingvCamera*

Convergences (Verbal - *Ca(p)mera*):

Amenity nodes and lifestyle chain. *P93*'s ideal day sequences metro + coffee / croissant + lakeside walk + gallery + Langham brunch + shopping + terrace wine + event at Xintiandi No.1 + tea house + playing cards (T-02), and his *Ca(p)mera* frames coincide

with amenity touchpoints (terraces, gallery, shop thresholds), picturing the consumption-led, date-friendly urbanity he narrates.

Commercial priority with cultural add-ons. Verbally he frames Xintiandi as "commercial first, then culture"; visually, the frames privilege frontages, signage, furniture and people-watching vistas, with trees and sky appearing as ambience, which is a composition that substantiates his consumer-cosmopolitan stance.

Convergences (Verbal - *FloatingvCamera*):

Taxonomic breadth. *P93*'s T-01 forms four clear groups ("*transport*"; "*natural*"; "business"; and "behaviour"), and the *FloatingvCamera* shows distinct piles, not a single mixed heap, matching his user scape logic (movement / place / sociability). The cards visible for plane trees, lanes / buildings, places / furniture, social activities correspond to his T-11/12 enumerations and feelings ("brighter future" at the residential visit; pleasure and convenience at the commercial part).

What the visuals add beyond the words:

Ambience and flow. Compared with his statements, the *Ca(p)mera* introduces more sky, trees and longer sightlines, making circulation and atmosphere between nodes legible, how the day's itinerary feels in motion, not only what it contains.

Prioritisation at a glance. The *FloatingvCamera* spatially weights categories (notably "business" and "behavior") through pile size and position, giving an instant cue to what dominates *P93*'s mental model, something harder to glean from text alone.

What the words add beyond the visuals:

Authenticity critique & policy economy. *P93*'s nuanced judgments like "*the lake is* fake" hybrid style vs. "*real*" former French Concession, relocation and gentrification, phase expansion, timing and risk, are not photographable in his frames; they extend the *constructural* and *cultural* reading into *strategy* and social consequence. Identity shifts and class reading. The transcript captures status symbolism (luxury residential leading city prices), elite's private events, and a residential preference elsewhere (former French Concession) that the images do not show.

Divergences / blind spots:

Residents' life vs. tourist stage. His critique of touristic staging and residential authenticity is only in words; Ca(p)mera privileges visitor experiences, under-recording resident-only environments, with an expected visibility bias of public photography.

Emotions as inference. Feelings of “brighter future” and pride emerge in T-12; images convey pleasure but cannot denote these ideas without the verbal layer.

Interpretation (*P93*):

Triangulation shows tight coupling between *P93*’s lifestyle itinerary and the amenity-centric *Ca(p)mera*, and between his four-domain taxonomy and the *FloatingvCamera* cluster layout. The gaps are his authenticity critique, market-timing story, and class analysis, including insights that reside in verbal reasoning. Net effect: the tools externalise *P93*’s user scape as a clear, navigable map while the transcript supplies the normative and political economy layers

26.6. Strengths and weaknesses of *Desirable Cities*’ tools

This section evaluates each tool against *Desirable Cities*’ criteria of coverage of the *natural*, *cultural*, and *constructural* elements of the field of research, and clarity of *emotions*, *actions*, and *reflections* triggered by the environment, using the paired *city makers* and *city users* cases to surface strengths, weaknesses, and concrete refinements. Where helpful, this analysis indicates which phase the tool best supports: W (walk, in-situ) or T (talk, reflective synthesis).

26.6.1. Evaluating camera-based tools

26.6.1.1. *Ca(p)mera*

What it captures best. Participant-driven frames record value-charged peaks of the moments and places where participants choose to linger. For P91 (city maker), these were Shikumen’s façades, bricks, arches, and balconies; for *P93* (*city user*), social amenities (terraces, restaurants, galleries, and shops) that stitch a lifestyle itinerary. This aligns tightly with their walk talk and ideal-day narratives.

Strengths.

Agency & salience. Reveals what matters enough to stop for, making personal salience auditable.

Texture & junctions. Excels at material/detail (*P91*) and thresholds/furnishings (*P93*) that are often lost in wide shots.

Memory anchors. Provides photographic hooks that later stabilise the talk phase recall.

Weaknesses.

Selection bias. Overrepresents peaks and underrepresents flows; for example, nature elements were underrepresented even when verbally valued (*P91*).

Intangibles gap. It cannot record policy, costs, training, and class dynamics that emerged verbally (e.g., P93 on timing, relocation, and price leadership).

Comparability limits. Different stopping habits across participants can reduce cross-case comparability.

26.6.1.2. *Following>Camera*

What it captures best. A researcher-driven continuous path records street rhythm, path-space sequences, and spatial syntax, connecting urban surfaces that individual *Ca(p)mera* peaks miss. This clarified touristic pressure corridors, retail spines, and lake/museum adjacencies referenced during the walk.

Strengths.

Continuity & baseline. Offers a standardised transect for cross-case comparison.

Wayfinding logic. Makes itinerary structure evident (how plazas, lanes, and amenities form a chain).

Context for peaks. Situates *Ca(p)mera* stops within a broader morphology. Weaknesses.

Lower participant authorship. Risk of under-recording personal salience. Blurred affect. It captures the ambience well but is weak regarding feelings, actions, and ideas without narration.

Temporal sensitivity. A single pass may misrepresent time-of-day and weekday variations.

26.6.1.3. *FloatingvCamera*

What it captures best. Over-the-table, extracts of the *Emotion-naire Cards*, *Structure-naire Canvas*, and *Terms-naire Tray* tools experience externalising cognitive structure at the moment of synthesis.

Strengths.

Whole-field visibility. The *natural*, *cultural*, and *constructural* coverage becomes co-present in one frame.

Weight & priority. Pile size and position communicate emphasis at a glance. Audit trail. Preserves the final arrangement for later coding and comparison. Weaknesses.

Frozen state. A still cannot show how clusters formed or shifted.

Performance risk. Some participants may arrange to please the researcher unless reassured.

Label dependency. Over-reliance on printed categories can narrow what gets placed.

26.6.1.4. Synthesis of camera-based tools

Used together, *Ca(p)mera* (peaks), *Following>Camera* (flows), and *FloatingvCamera* (maps) form a detail–continuum–cognition triad. In *Desirable Cities* tests: *Ca(p)mera* disclosed *city maker* material specificity and *city user* amenity touchpoints; *Following>Camera* revealed circulation and crowding; *FloatingvCamera* captured the talk-phase structure that the cards, canvas, and tray elicited. The chief gap across all three remains intangible economy and policy, as well as unseen *emotions*, *actions* and *reflections*, which must be captured verbally.

26.6.2. Evaluating cards and illustrations-based tools

Observed effects. Compared with the control participants, both *P91* (*city maker*) and *P93* (*city user*) produced broader coverage (macro-level) and clearer (environmental components and psychological responses associative chains). Control group: *P92* and *P94* offered minimal structures or short affect-forward wishes without system coverage.

Strengths.

Recall scaffolding. Visual variety prompts a comprehensive listing

Linkage catalyst. The card form playfully supports emotion, action, and idea storytelling.

Comparability. Participants' groupings are commensurable across roles and sites.

Weaknesses.

Category priming. Risk of leading participants toward provided categories, muting idiosyncratic content.

26.6.3. Evaluating canvas and structure-based tools

Observed effects. The canvas helped *P91* articulate actors, objectives, resources, costs, and outcomes (T-14 to T-21) and situate elements in time and policy economy. P93 used it to narrate timing, scale-up, and relocation/gentrification (T-09 and T-16). By contrast, the controls often stalled on context, cost, and training questions ("I don't know"), indicating that without scaffolding, participants default to memory of experiences rather than systemic accounts.

Strengths

Systems disclosure. Surfaces government, developer, designer, and builder ecological, *cultural*, and *constructural* considerations, resources, and costs. In short, a *holistic* awareness is necessary for satisfying their expectations of desirable urban experiences.

Temporal anchoring. Encourages before and after, and sequence by graphically displaying the process and its hierarchical relationships.

Role reflection. Makes participants locate themselves within the system (visitor, commuter, resident; policymaker, real estate developer, designer, or builder).

Weaknesses

Cognitive load. Some prompts presuppose policy and economic literacy, and they can yield non-answers without prior cues. The results showed that the literacy gap must be addressed.

Abstraction risk. If rushed, entries stay generic (e.g., "vision", "profit") and miss magnitudes.

Time cost. Complete traversal of the canvas can be lengthy in field settings.

26.6.4. Evaluating simple selection-based tools

Observed effects. As a finisher, the *Terms-naire Tray* quickly tops-up coverage by nudging attention to often-ignored modalities (e.g., smells, sounds, micro-climate) and provides precise vocabulary for coding. In *Desirable Cities* tests, using a vocabulary prompt after open answers helped the *tools group*'s participant add sensory and complementary elements that had been skipped during free talk.

Strengths.

Speed & breadth. Low-effort way to complete the inventory.

Coding readiness. Normalises synonyms and reduces transcription variance.

Confidence builder. Participants appreciate having words at hand for fuzzy perceptions.

Weaknesses.

Checkbox risk. May produce thin endorsements without depth or location. Over-standardisation. Can flatten nuance if not followed by a “why/where” probe.

26.7. Conclusions of *Desirable Cities’* tools testing results

Tools matter most in the talk phase. With matched backgrounds held constant, the walk-phase converged strongly across all four participants; the talk-phase revealed marked divergence between tools and control groups. *Emotion-naire Cards*, *Structure-naire Canvas*, and *Terms-naire Tray* consistently expanded coverage and coherence, turning tacit impressions into explicit, mappable *Cities’ PIDs.*

Role lenses persist and are clarified, not overwritten. *City makers* speak in styles, systems, and project logics; *city users* speak in lifestyles, sociability, and identity. The tools amplified each lens: P91’s visual/verbal record became a design inventory; P93’s became a use-domain map. However, it also allows for a bridge between them (when they are questioned about the counterpart, the two canvases can be displayed together for comparison analysis).

Visuals and words are complementary, not redundant. *Ca(p)mera* shows peaks, *Following>Camera* shows flows, *and FloatingvCamera shows mapping and cognition; singular peaks, collective flows, and mapping for cognition are paramount in urban studies, in which participants’ voices (the transcripts, selected cards, canvas content, and selected terms) supply time, causality, policy and identity, and, most importantly, Cities’ PIDs.* Only the combination produced actionable evidence.

Known gaps and how to cover them. Images rarely carry costs, training, policy, or economy; lists can miss senses; and canvases can be overly-abstract. The triangulated protocol, with walks using the *Ca(p)mera* + *Following>Camera*, together with talks using the *Emotion-naire Cards* + *Structure-naire Canvas* + *Terms-naire Tray* and *FloatingvCamera*, mitigates these blind spots and yields comparable, auditable data.

Implication for practice. *Desirable Cities’* toolkit, used as a modular sequence, reliably surfaces *the environment’s natural, cultural, and constructural elements* and binds them

with *emotions*, *actions* and reflection chains, improving design relevance (related to *city makers*) and experience mapping (related to *city users*) aiming for helping all the city stakeholders of any city to identify, communicate and *holistically* satisfy their expectations for desirable urban experiences. For future rounds, particularly on a large deployment (a city scale), *Desirable Cities* recommends: the peak capabilities of the *Ca(p)mera*, the flow and contextual capabilities of the *FloatingvCamera*, the macro level elicited of the *Emotion-naire Cards*, the structural and hierarchical capabilities of the *Structure-naire Canvas*, the simplicity and diversity selection capabilities of the *Terms-naire Tray*, and the mapping and cognitive capabilities of the *FloatingvCamera*. Together, these refinements strengthen the toolkit's validity, comparability, and transferability in cities' spaces and their stakeholders.

FRENCH SUMMARY OF PART SEVEN

LES PISTES FUTURES DE *VILLES DÉSIRABLES*

27. SYNTHÈSE THÉORIQUE ET PRATIQUE

La condition préalable fondamentale pour une ville *désirable* est un abandon décisif des approches réductionnistes dans les paradigmes urbains. Les villes doivent être comprises et gérées comme des systèmes socio-écologiques complexes, dynamiques et interconnectés, ce qui nécessite une évolution d'une approche *interdisciplinaire* vers une approche *holistique* plus avancée de l'environnement urbain.

Le développement urbain traditionnel s'est historiquement concentré sur la matérialité, négligeant les écosystèmes équilibrés de la Terre et le bien-être des individus. Cette approche fragmentée est mise en évidence à travers les phases historiques urbaines où la croissance économique et les avancées technologiques se sont faites au détriment de l'équilibre écologique et du bien-être social. Alors que les fondations urbaines primitives montraient un équilibre entre les dimensions *naturelle*, *culturelle* et *construite*, les périodes ultérieures ont de plus en plus privilégié les éléments *culturels* et *construits* avec des impacts négatifs sur l'environnement naturel et l'égalité sociale.

Villes Désirables propose une approche *holistique* et *interdisciplinaire* qui unit la durabilité écologique (*naturel*), l'engagement communautaire inclusif (*culturel*) et la conception adaptative centrée sur l'utilisateur (*construit*). Le *pragmaticisme* urbain, adapté du système philosophique de Peirce (1933, 1960), fournit l'architecture intellectuelle avec la « priméité », la « secondéité » et la « tiercéité » représentant respectivement les environnements *naturel*, *culturel* et *construit*. Cette structure triadique renforce le fait qu'un environnement *construit* désirable ne peut exister sans un environnement *culturel* sain, et aucun des deux sans un environnement *naturel* équilibré et durable.

Le cadre met l'accent sur la compréhension des perceptions, interprétations et aspirations des individus, capturées à travers les *Imaginaires phénoménologiques du désir de ville* (*cities' PIDs*). Ceux-ci servent d'unité d'analyse reliant les composantes de la ville aux réponses psychologiques (*émotions*, *actions*, *réflexions*) déclenchées chez

les acteurs. Les limites des mouvements urbains alternatifs isolés soulignent la nécessité d'une approche globale combinant les contributions de la philosophie, de l'écologie, de la biologie, de la sociologie, de la psychologie, de la sémiotique et de l'économie.

Le cœur de *Villes Désirables* réside dans la compréhension et la prise en compte des attentes des individus en matière d'*expériences urbaines désirables*, allant au-delà des mesures traditionnelles qui ne privilégient que les facteurs quantifiables. Il explore les expériences subjectives et intersubjectives, reconnaissant que les entrées sensorielles, le symbolisme culturel et les imaginaires individuels/collectifs façonnent des désirs en constante émergence. S'inspirant du cadre de Lacan (2006), les expériences urbaines sont influencées par l'interaction des éléments du « *réel* », du « *symbolique* » et de « l'*imaginaire* », contribuant au « *vide* » ou à la « *cause du désir* » que les individus cherchent à combler. Le « *désir mimétique* » de Girard (2000) souligne comment les aspirations sont souvent imitatives, ce qui signifie que la désirabilité d'une ville est coproduite de manière dynamique à travers les interactions entre les *créateurs de villes* et les *utilisateurs de la ville*.

Villes Désirables met un accent significatif sur les outils visuels didactiques pour combler les fossés de communication et améliorer la capacité à identifier/articuler les attentes. Les essais préliminaires (*Picture-naire*, *Photo-naire*, *Graphic-naire*) ont révélé le pouvoir des éléments visuels pour susciter des aperçus plus profonds. Cela a éclairé la conception d'outils sur mesure : *Ca(p)mera*, *Following>Camera*, *FloatingvCamera*, *Emotion-naire Cards*, *Structure-naire Canvas* et *Terms-naire Tray*. Ceux- ci servent plusieurs objectifs : renforcer la prise de conscience et la réflexion ; faciliter la communication à travers un langage visuel commun ; capturer des données nuancées, y compris des comportements subtils ; et jeter un pont entre les concepts théoriques et l'application pratique.

28. LES RECOMMANDATIONS DE *VILLES DÉSIRABLES*

Pour les créateurs de villes :

- Promouvoir un développement urbain *holistique* qui accorde une priorité égale à la stabilité écologique de la Terre, au bien-être social et à l'épanouissement des espaces urbains ;
- Favoriser la coopération interdisciplinaire en intégrant les perspectives de divers domaines ;
- Établir des canaux accessibles pour un retour continu des *utilisateurs de la ville* ;
- Mettre en œuvre des connaissances actualisées et des outils créatifs s'inspirant de théories telles que le *pragmaticisme* de Peirce (1933,1960), le *couplage structurel* de Maturana (1992), et les théories du désir de Lacan (2006)/Girard (2000).

Pour les utilisateurs de la ville :

- Promouvoir des attentes urbaines *holistiques* conscientes, en reconnaissant comment les perceptions, les interprétations et les réponses psychologiques influencent la désirabilité de la ville ;
- Tirer parti des réseaux sociaux et des plateformes numériques pour renforcer les voix collectives et influencer le développement urbain.

29. PROPOSITION D'OUTILS NUMÉRIQUES POUR LE DÉVELOPPEMENT DE *VILLES DÉSIRABLES*

***Koinos* : un outil numérique pour le développement urbain collectif**

Après cinq ans d'expérimentation empirique, *Villes Désirables* a produit *Koinos* comme un outil abouti permettant aux acteurs d'identifier, de communiquer et de satisfaire de manière *holistique* les attentes au sein d'*expériences urbaines désirables*. L'application représente une synthèse appliquée traduisant les aperçus de terrain en un instrument pratique déployable dans le monde entier.

Koinos jette un pont entre les approches qualitative et quantitative, relevant le défi des

enquêtes à grande échelle qui peinent à suivre l'évolution dynamique des publiques. En s'engageant d'abord de manière intime par la recherche qualitative, puis en traduisant les aperçus dans un format à grande échelle, il préserve la subtilité des aperçus individuels au niveau micro tout en les convertissant en schémas agrégés au niveau macro.

Les fonctionnalités principales incluent :

- **Interface de partage** : Télécharger des photos et des expériences pour gagner des crédits ;
- **Interface de questionnement** : Interroger les données agrégées pour découvrir des tendances ;
- **Interface des favoris** : Marquer et revisiter les lieux approuvés ;
- **Système de crédits** : Équilibrer la contribution (publication/approbation) avec la consommation (requêtes) ;
- **Système de balises** : Six catégories (*naturel*, *culturel*, *construit*, *émotions*, *actions*, *idées*) avec des sous-catégories détaillées, sont prises en compte.

Les principaux apports de l'outil *Koinos* ont été en grande partie construits et fondés empiriquement, mais en s'inspirant directement de la recherche de *Villes Désirables* qui de son côté est totalement inscrite et justifiée d'un point de vue théorique :

- Les essais de la *Ca(p)mera* ont inspiré l'utilisation des téléphones mobiles et des habitudes de publication comme colonne vertébrale ;
- Les *Emotion-naire Cards* ont éclairé les filtres de retouche photo réduisant le bruit de fond ;
- Les mesures du *Structure-naire Canvas* ont été converties en boutons de balisage structurés ;
- La méthodologie *walk-to-talk* (marche et discussion) est réalisée à travers des interfaces doubles de partage/questionnement.

L'architecture technique emploie un cadre de microservices avec conteneurisation pour une mise à l'échelle horizontale, utilisant des solutions de stockage distribué et des capacités d'IA basées sur le cloud. **L'évolutivité sociale** aborde l'expérience utilisateur inclusive par une conception accessible, un système de crédits favorisant la réciprocité et des campagnes de récompenses nourrissant un éthos collectif.

Les limites et les stratégies d'atténuation incluent :

- Une participation inégale atténuée par des modes hors ligne et des campagnes d'inclusion numérique ;
- Une validation des données améliorée par des vérifications d'approbation et des scores de crédibilité pondérés ;
- Des préoccupations de confidentialité traitées par le chiffrement, l'anonymisation et un consentement granulaire ;
- Des contraintes économiques paliées contrées par des partenariats public-privé.

Les considérations éthiques englobent :

- Des principes de minimisation et d'anonymisation des données ;
- Un stockage sécurisé avec chiffrement AES-256 ;
- Une conformité au RGPD et aux réglementations régionales ;
- Une prise en compte de la fracture numérique par des partenariats avec des centres communautaires ;
- Un conseil consultatif multipartite pour la gouvernance ;
- Des méthodologies transparentes et des interfaces de données ouvertes.

Les stratégies de monétisation évitent la publicité excessive, en se concentrant sur :

- Des abonnements premium pour les autorités municipales accédant à des analyses avancées ;
- Des campagnes urbaines en partenariat avec des entreprises locales sélectionnées ;
- Des services en marque blanche pour d'autres villes.

Le développement de l'application représente une prise de position méthodologique critique : la nécessité de jeter un pont entre les approches qualitatives et quantitatives. *Koinos* préserve les voix individuelles tout en appliquant des techniques quantitatives pour la détection de schémas, offrant un plan directeur pour faire évoluer efficacement la recherche qualitative en une application pratique maintenant l'équilibre entre la robustesse et la profondeur.

PART SEVEN.

DESIRABLE CITIES' WAYS FORWARD

30. *DESIRABLE CITIES'* RECOMMENDATIONS

This section distils from Desirable Cities' findings recommendations and a digital pathway (Koinos) for scaling qualitative insights into city-wide, participatory practice.

30.1. Recommendations for *city makers*

To foster *desirable* cities, *city makers* must evolve their practices to embrace a more *holistic*, *interdisciplinary*, and user-centric approach.

30.1.1. Promoting *holistic* city development

City makers should actively promote *holistic* city development beyond a material-centric focus to equally prioritise Earth's ecological stability, social well-being, and thriving urban spaces. This involves recognising that the *constructural* environment cannot exist without a healthy *cultural* environment, and neither can exist without a balanced and sustainable *natural* environment. *City makers* are profoundly responsible for integrating environmental, social, and cultural dimensions from the outset of urban projects, not as afterthoughts. This approach aligns with Magnaghi's territorialist framework, ensuring a city's growth harmonises with ecological integrity and social well-being.

30.1.2. Promoting *interdisciplinary* cooperation for city development

City makers should actively foster interdisciplinary cooperation by incorporating insights from diverse fields such as ecology, geography, biology, sociology, psychology, anthropology, ethnography, semiotics, and economics into urban planning and development processes. The complexity of urban environments, shaped by interconnected systems, necessitates this integrated knowledge. By doing so, *city makers* can develop a deeper understanding of urban dynamics and the multifaceted needs and desires of city stakeholders, ensuring that solutions are comprehensive and balanced. This includes encouraging policymakers, urban planners, real estate developers, architects, designers, engineers, and builders to overcome traditional disciplinary boundaries and collaborate effectively.

30.1.3. Promoting channels for *city users*' feedback loops

City makers must establish and actively promote accessible channels for continuous feedback from *city users*. It is crucial to recognise that *city users* are active agents who employ tactics to shape urban spaces, often in unanticipated ways. Feedback mechanisms like mobile phone apps can enable transparent analytics and integrate citizens' lived experiences into policy and design frameworks. This promotes effective communication and negotiation between top-down strategies and bottom-up needs and desires, bridging the gap between makers' intentions and users' lived experiences.

30.1.4. Encouraging the implementation of updated knowledge and creative tools for a *holistic* and interdisciplinary approach to city development

City makers should prioritise implementing updated interdisciplinary knowledge and creative, didactic visual tools in their practices. Training programs should integrate modules on ecological balance, human perception, and the psychological dimensions of urban experiences, drawing from theories such as Peirce's *Pragmaticism*, Maturana's concept of structural coupling, and Lacan's and Girard's theories of desire. Tools that leverage visual methodologies, like cameras, cards, and canvases, can significantly improve city stakeholders' identification and communication of *Cities' Phenomenological Imageries of Desire* (*Cities' PIDs*), fostering a conscious understanding of urban expectations.

30.2. Recommendations for *city users*

As active participants in shaping the urban environment, *city users* also have a vital role in fostering *desirable* cities.

30.2.1. Promoting conscious and *holistic* urban expectations and experiences

City users should actively promote conscious and *holistic* urban expectations and experiences. This involves recognising that their perceptions, interpretations, and psychological responses to the environment significantly influence the city's desirability. By reflecting on their own *Cities' PIDs* and their *emotions*, *actions*, and *reflections* triggered by *the city spaces' natural, cultural, and constructural elements*, *city users* can better articulate their genuine needs and desires for urban spaces. This conscious engagement allows users to move beyond passive consumption and actively contribute to shaping urban life.

30.2.2. Leveraging social networks for strengthening communities' voices

City users should leverage social networks and digital platforms like mobile phone applications designed to strengthen their collective voices and influence urban development. These platforms offer a means to share individual experiences, aggregate insights, and identify collective urban trends and preferences. Users can amplify their influence by participating in community-driven narratives and providing feedback on urban initiatives, fostering a more participatory culture of city-making and ensuring that their desires are integrated into planning processes.

31. ADVANCING DIGITAL TOOLS FOR COLLECTIVE CITY DEVELOPMENT

31.1. From data collection to actionable insights

The fundamental premise underpinning *Desirable Cities*' approach to digital tools is the critical transition from raw data collection to generating actionable insights. This involves moving beyond merely gathering information to systematically processing, analysing, and presenting it in a way that directly informs urban planning, policy-making, and community engagement.

Koinos, as the culminating tool of the *Desirable Cities* research project, represents the practical application of this transition. It directly translates the rich, on- the-ground qualitative insights gathered from the empirical testing phase into a practical, scalable instrument. The rigorous methodology employed during the empirical testing, which utilised specific tools like the *Ca(p)mera*, *Emotion-naire Cards*, and *Structure-naire Canvas*, provided the critical foundation for *Koinos'* design and functionality.

- *Ca(p)mera*, *Following>Camera*, and *FloatingvCamera*: Capturing Phenomological Encounters for Scalable Insights. The empirical use of cameras, including the unobtrusive *Ca(p)mera* for first-person perspectives, the *Following>Camera* for third-person contextual data, and the fixed-position *FloatingvCamera* for tool interaction, yielded rich audiovisual data on participants' direct perceptions and embodied engagement with the urban environment. These tools effectively captured raw, unmediated visual perceptions and documented how participants navigated and engaged with spaces. This directly informed *Koinos*' core photo-capturing and sharing features, inspiring the idea of leveraging mobile phones and users' recurrent habit of posting daily activities as the backbone for scalable

data collection within the app. The insights from these camera-based tools are translated into *Koinos*' ability to document micro-level details of urban experiences, which can then be aggregated into macro-level patterns.

- *Emotion-naire Cards*: Structuring Perceptions to Reduce Noise for Tagging. The *Emotion-naire Cards*, designed to facilitate the visualisation of macro- level urban components and conditions, revealed participants' spatial metaphors and helped them express their perceptions, interpretations, and aspirations. The preliminary studies, particularly the *Photo-naire* and *Graphic-naire*, highlighted the challenge of distracting background elements in raw images. *Koinos* directly integrates this finding through its photo- editing filter, allowing users to remove irrelevant details or convert pictures into illustrations, thereby reducing background noise and enabling a more explicit focus on the captured core experience. This directly informed *Koinos'* structured tagging system by identifying the types of distinct urban features and components that users found meaningful to categorise.
- *Structure-naire Canvas* and *Terms-naire Tray*: Defining Measurable Categories for *Tagging Systems*. The *Structure-naire Canvas* and its complementary *Terms-naire Tray* were instrumental in eliciting participants' detailed reflections on urban environments within a structured layout, encompassing *natural*, *cultural*, and *constructural* components, as well as emotions, actions, and ideas. This direct, structured data collection from the canvas provided the empirical basis for *Koinos*' comprehensive tagging system. The six core categories (*natural*, *cultural*, *constructural* environments, emotions, actions, and ideas) identified and refined through this process became the structured, simple-selection tagging buttons within the app. Empirical validation confirmed the relevance and consistency of these categories with user observations, ensuring that *Koinos*' tagging system is grounded in real- world urban experiences.

- From Walk to Talk: Aggregating Singular Nuances into Collective Patterns. The methodology of combining walk-tour interviews (*Stately-Walks* and *Chatty-Walks*) with talk-tool interviews (*Insightful-Talks* and *Playful-Talks*) proved crucial for collecting both micro-level spontaneous remarks and contextualised, broader urban frameworks. This dual approach informed *Koinos*' dual interface: a Sharing interface for individual moments and an Enquiring interface that aggregates these singular moments into macro- level patterns, ensuring that each user's input contributes to a collective urban knowledge base.

Koinos, therefore, is not merely a promising participatory app but a robust, empirically grounded tool that directly embodies the *Desirable Cities*' vision for actionable, scalable insights. By translating rigorous doctoral research into a practical application that maintains a delicate balance between quantitative robustness and qualitative depth, *Koinos* offers a blueprint for effectively scaling up qualitative research findings for entire city engagement.

31.2. *Koinos*: a proposal for scaling up *Desirable Cities*' findings for an entire city engagement

After five years of intensive empirical experimentation, *Desirable Cities* produced *Koinos* as its final and most tangible outcome. *Koinos* represents the culmination of a prolonged research endeavour aimed at enabling city stakeholders to identify, communicate and *holistically* satisfy their expectations within their desirable urban experiences. Through iterative field studies and prototype trials, *Desirable Cities* progressively refined its qualitative research tools to capture the unique expectations of stakeholders. As such, *Koinos* is not merely an app but an applied synthesis of the *Desirable Cities*' findings, directly translating rich, on-the-ground insights into a practical instrument that can be deployed in any city worldwide.

At the core of *Koinos*' development, there is a critical methodological stance: the necessity to bridge qualitative and quantitative approaches in urban studies. Large-scale quantitative surveys often struggle to keep pace with the dynamic evolution of public preferences; by the time extensive data sets are collected and analysed, a city's conditions may have shifted, making those findings less relevant. *Desirable Cities* addressed this challenge by first engaging intimately with city stakeholders through qualitative research to fine-tune methods and uncover nuanced insights and finishing by translating those insights into a large-scale format. This careful qualitative-to-quantitative transition is one of the *Desirable Cities*' essential contributions, demonstrating how singular, fine-grained urban studies can inform broad-scale tools without sacrificing relevance or sensitivity. *Koinos* thus preserves the subtlety of individual, micro-level insights while converting them into aggregated macro-level patterns that remain digestible and actionable.

The following section outlines the development and implications of the *Koinos* app in detail. First, the app's design is examined, describing its interface, features, and the technical, economic, and cultural strategies that underpin its realistic materialisation. Next, an integration analysis discusses how *Koinos* incorporates *Desirable Cities*'

methodological innovations developed over the five-year research period, ensuring that the singular qualitative insights from the earlier theoretical and empirical research are woven into the app's structure and functionality. Following this, considerations of scalability and feasibility are addressed, evaluating how the platform could be implemented across an entire city and the practical challenges or opportunities such scaling presents. Finally, the section concludes by reflecting on ethical considerations, including data privacy, inclusivity, and other responsibilities inherent in deploying a participatory urban tool like *Koinos*.

31.2.1. Introduction to *Koinos*

Koinos emerges as the culminating tool of the *Desirable Cities* research project, embodying a user-centric, academically rigorous, and technologically innovative platform designed to capture and interpret everyday urban experiences. Grounded in participatory visual/elicitation methodologies such as Photovoice (Wang and Burris 1997, 369–75), and informed by multidisciplinary fields including environmental psychology, urban sociology, and geoinformatics, particularly work on emotions and urban space using social-media GIS (Ma et al. 2021, 1–2; 2021, 20–22) and the foundational concept of volunteered geographic information (Goodchild 2007, 211– 14), *Koinos* transforms personal observations into meaningful data that can guide city improvements. By unifying structured tagging (*natural, cultural, constructural; emotions, actions, ideas*) with the app's core interfaces, Sharing, Enquiring, and Favourites, *Koinos* enables participants to move from micro-level encounters (photographing a favourite landmark) to macro-level insights (identifying broader spatial/temporal trends). A robust credit system and reward/awareness mechanics are included to balance participation and sustain high-quality contributions; the design follows evidence that gamification can increase engagement when carefully matched to task and context (Hamari et al. 2014, 3025–28) and that specific gameful affordances in crowdsourcing improve contribution rates and quality when thoughtfully designed (Koivisto and Hamari 2019, 193–98; Morschheuser et al. 2017, 27–31).

Equally crucial is the alignment with city stakeholders: local authorities, businesses, and community groups can harness *Koinos*' transparent analytics, thereby integrating citizens' lived experiences into policy and design frameworks (Brown and Kyttä 2014, 124–34). Additional layers, ranging from AI-driven recommendations to monetisation and customisation strategies, provide scalability and responsiveness, allowing the app to adapt across distinct urban contexts. Consequently, *Koinos* not only reinforces

the academic vision of *Desirable Cities*, where emotional, social, and environmental dimensions intersect with tangible urban data, but also fosters a more inclusive, participatory culture of city-making, in which every resident can play an active role in shaping the shared urban future (Evans et al. 2002, 1–4; 222–25).

31.2.2. City stakeholders' alignment and initial buy-in

Creating and sustaining *Koinos* requires more than user engagement; it demands alignment with city stakeholders such as municipal authorities, local businesses, civil-society organisations, and community groups (Brown and Kyttä 2014, 124–28). Achieving this initial buy-in hinges on conveying the app's dual value proposition: gathering richly granular data on urban experiences while providing an inclusive platform that amplifies diverse voices (Goodchild 2007, 211–14). From a governance perspective, city councils can use *Koinos* to trace nuanced patterns such as which squares need upgrading; shifts in sentiment across neighbourhoods as well as target interventions, aligning with arguments that participatory data and processes strengthen effectiveness, legitimacy, and justice when well-designed (Fung 2015, 515–19) and with broader coalitional strategies for urban liveability (Evans et al. 2002, 1–4; 2002, 222–25). For local businesses, endorsing and incentivising posts in relevant districts can improve brand visibility and capture direct feedback. At the same time, civil-society groups can mobilise around environmental and cultural initiatives using transparent, place-based evidence.

Pilot workshops can be conducted to catalyse stakeholder commitment, showcasing how app data translates into actionable insights. Such sessions illustrate, for example, how geo-tagged emotions or frequently endorsed "*Ideas Triggered*" might guide participatory budgeting (Sintomer et al. 2007, 166–72). These interactions often reveal cross-sector benefits and encourage partnerships, wherein city governments adopt *Koinos* as part of their official community engagement tools. Memorandums of Understanding (MoUs) or public endorsement statements further instil confidence in the platform, ensuring broad institutional support early on. This approach resonates with theories of collaborative planning, where multi-stakeholder involvement enriches project legitimacy and effectiveness (Healey 1998, 1536–42). Alignment with city stakeholders is not a one-time event but an ongoing process: as *Koinos* grows, new data use cases emerge, prompting deeper cooperation with municipal committees and local networks who appreciate the platform's capacity to capture and respond to evolving urban needs (Brown and Kyttä 2014, 132–34) (Brown & Kyttä, 2014, pp. 132– 134).

31.2.3. Features and user experience

The *Koinos* application is a multi-interface platform enabling users to capture, explore, and collaborate around the best everyday urban experiences. Drawing on usability and gamification principles, the app blends structured tagging, dynamic data analytics, and intuitive navigation to engage a broad spectrum of city stakeholders (Hadar 2016). Its main functionalities span:

Sharing: taking and sharing photos, descriptions of lived experiences, and related tags of locations and plans.

Searching: enquiring aggregated user data through filters and tags and discovering new places or trends.

Saved history: revising saved enquiries.

To influence user posting, there is a *Credit System* that rewards user contributions (*sharing*). To foster user engagement, the app will display celebratory states to display rewards after posting and fun facts in loading states. This carefully orchestrated design upholds the participatory ethos, ensuring users' input feeds into a collective urban knowledge base.

31.2.3.1. Onboarding process

Before accessing the main Welcome page, users must authenticate through separate *Sign-up* (for new users) or *Log-in* (for returning users) pages. To introduce the app and its service benefits, the onboarding process will display each *Unique Selling Point* (*USP*) in an interactive animated format that changes its content every ≥ 5 seconds. At the bottom of this screen, two buttons are separated to log in or sign in. See *Image 173*: *Koinos - opening pages.* The app ensures clarity in user authentication flows and reduces cognitive load by offering quick options to sign up through third parties. *Cognitive Load Theory* (*CLT*) provides a valuable framework for understanding user interface design by addressing working memory capacity limitations. Effective user interface design minimises extraneous cognitive load through visual hierarchies, content chunking, and design consistency (Balasm et al. 2025; Feinberg and Murphy 2000). Studies show that managing cognitive load can improve user comprehension by over 50% (Moody 2004). Each page is illustrated with brand-aligned background images and icons, guiding people effortlessly into the main app environment (Hadar 2016). Users have a third option to explore the app as a guest without registering to get an overview of what the app offers them.

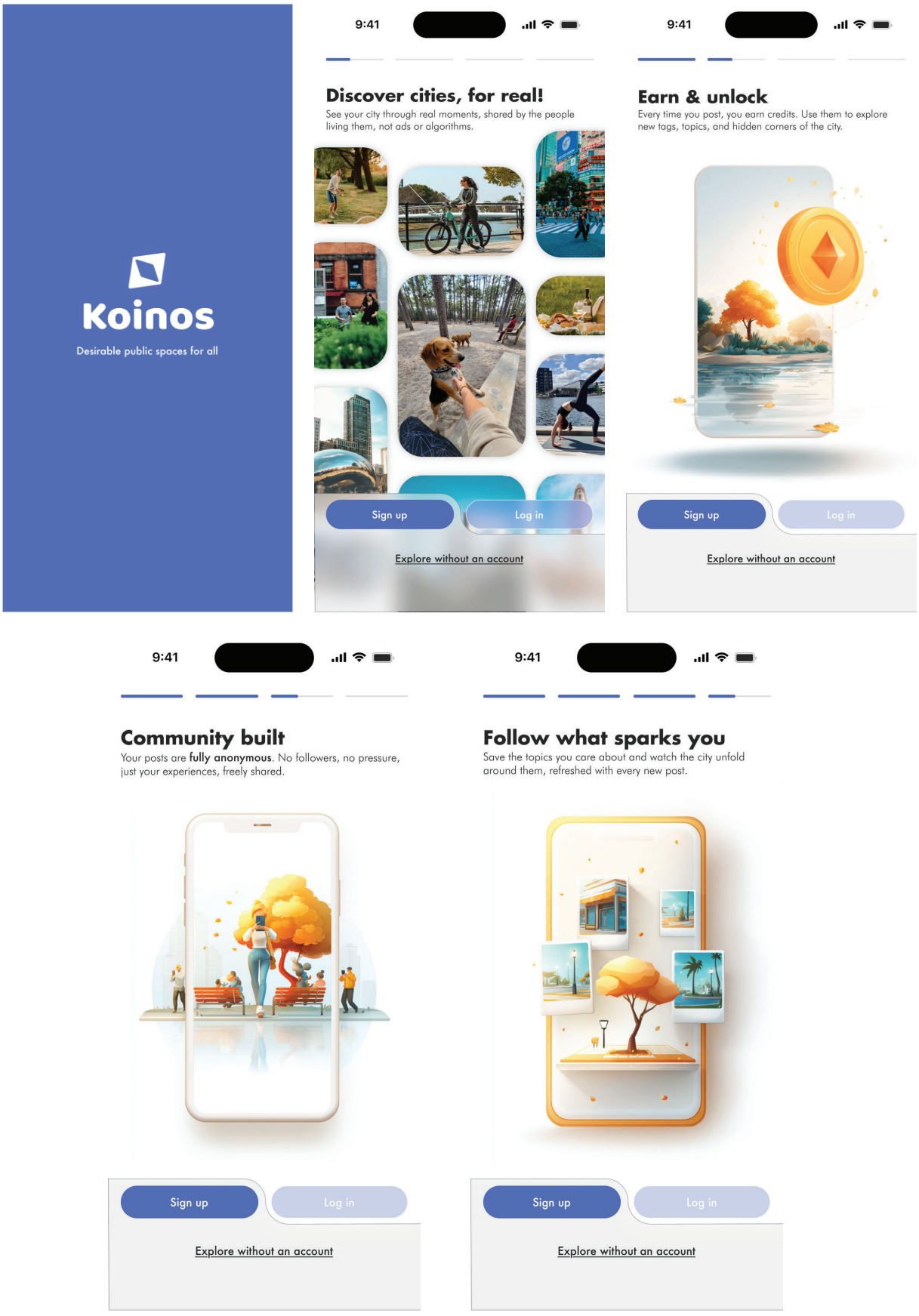


Image 173. *KOINOS - opening pages.*

Sign-up (registration) page

Familiar text fields, such as name, email, and optional phone number (data minimisation to respect privacy), offer users popular and safe-to-use third-party hyperlinks to register, reducing the cognitive load and time required to complete the registration process, thus reducing anticipation and decision-making freeze.

Terms and conditions: A required checkbox, clarifying usage policies and the credit system.

Create account button: Once tapped, the app briefly confirms successful registration.

Optional social media login: (if allowed) small icons for quick sign-up with Facebook or LinkedIn. See *Image 174*: *Koinos* - sign-up pages

Log-in page

Username/Email, password text fields, and third-party hyperlinks: Left-aligned input boxes for returning users.

Forgot Password link: Provides password recovery via email or SMS.

Log-in button: Large, distinct button that finalises the authentication and takes people to a home page.

Don't have an account yet? (register): This is a small note with a hyperlink that allows users to easily switch to *sign-up*. It's located towards the bottom of the screen to help users who mistakenly clicked *log-in* but have already registered.

31.2.3.2. Home / first time

After a successful registration process, users land on the home page, where they will be asked to allow the apps' access to location, notification, albums and media, and others based on the *Operation System* (*OS*) of their device. Once all necessary permits are obtained, tooltips will guide users to navigate the home interface, introducing them to the available options and showing where tools and entrances to interact with the app are located.

Home displays the user's current location at the top, followed horizontally by settings and credit availability; at the centre of the screen, and covering the majority of its real estate, is a feed with interactive information; this feed will later relate to their search



Image 174. *KOINOS - sign-up pages.*

history and saved content to help them discover more locations and plans. At the bottom of the screen is a nav bar with entrances to search, post, and profile. See *Image 175*: *Koinos – home page - first time.*

31.2.3.3. Home / profile

Header Location: Displaying the current location will ensure users find relevant content where they are. If users don't grant real-time location access to the app, this can be manually modified. The location comes in a dropdown menu that users can use to search for and change to a new location.

Settings: Users can access tutorials, language settings, and terms and conditions.

Credit preview: Users can always see the amount of credits they have collected, ensuring transparency.

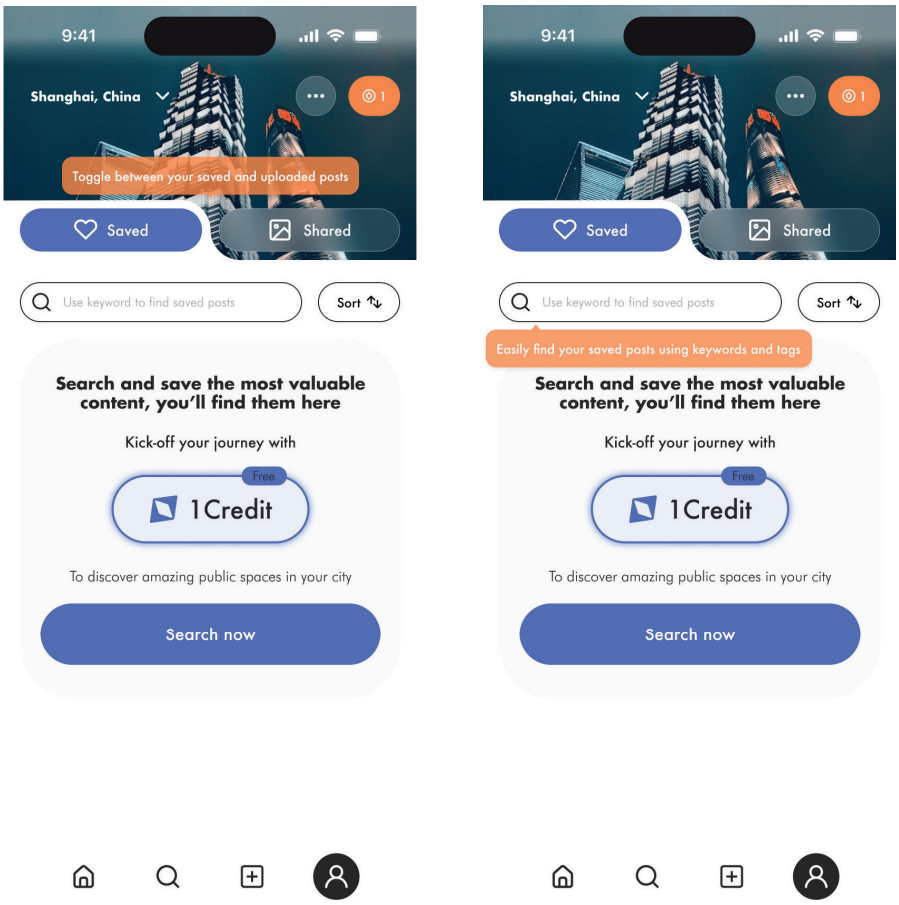


Image 175. *KOINOS Home – first time.*

Feed: At the top of the feed are filters users can use to alter the type of information they can preview. This information, located at the centre of the screen, is accessible based on the thumb zone proportion (Hoober 2011, 513–22).

Bottom navigation bar: four entrances with icons take users to home, search, post, and profile pages (in order from left to right)

See *Image 176*: *Koinos - home page / profile.*



Image 176. *KOINOS - home page / profile.*

31.2.3.4. Sharing interface

When users tap the plus icon to make a post, they are directed to a camera screen featuring a subtle message overlay that guides them through the posting process. Once they have a picture ready, the app advances to the next step with another guiding overlay. This process continues until they successfully make their post. In this way, the app provides a step-by-step guide for users during their initial interaction, culminating in their first accomplishment and the credits earned.

Step one: capture a picture or select one from a “save for later” inbuilt album (note: users won’t be able to access their phone’s album to select a photo from there)

Step two: edit the photo, and, if there are several photos, rearrange their order.

Step three: apply tags and location and write an “Idea” description.

Step four: tap the post.

Step five: celebration and credits-earned announcement.

Step six: preview.

At any point through these steps, users can either cancel or save for later. This gives users control and autonomy over their time and post-processing. User control and freedom are key usability heuristics. Key heuristics consistently identified across studies include navigation, content organisation, error handling, consistency, performance, and cognitive load considerations (Nielsen and Molich 1990, 249–56; Nielsen 1993, 115–20; Shneiderman et al. 2016, 96–98). These mobile-specific heuristics address unique constraints such as small screen sizes, touch interactions, and contextual usage patterns (Durães Dourado and Dias Canedo 2018, 483–88; Parente Da Costa et al. 2019, 153–56). Offer users clear exit points and the ability to go back to previous steps. Providing users with control reduces frustration and increases their sense of mastery over the interface, leading to a more positive user experience (Nielsen and Molich 1990, 249–56). Exiting takes users back to the home.

See *Image 177. Koinos - sharing - introduction guiding marks*

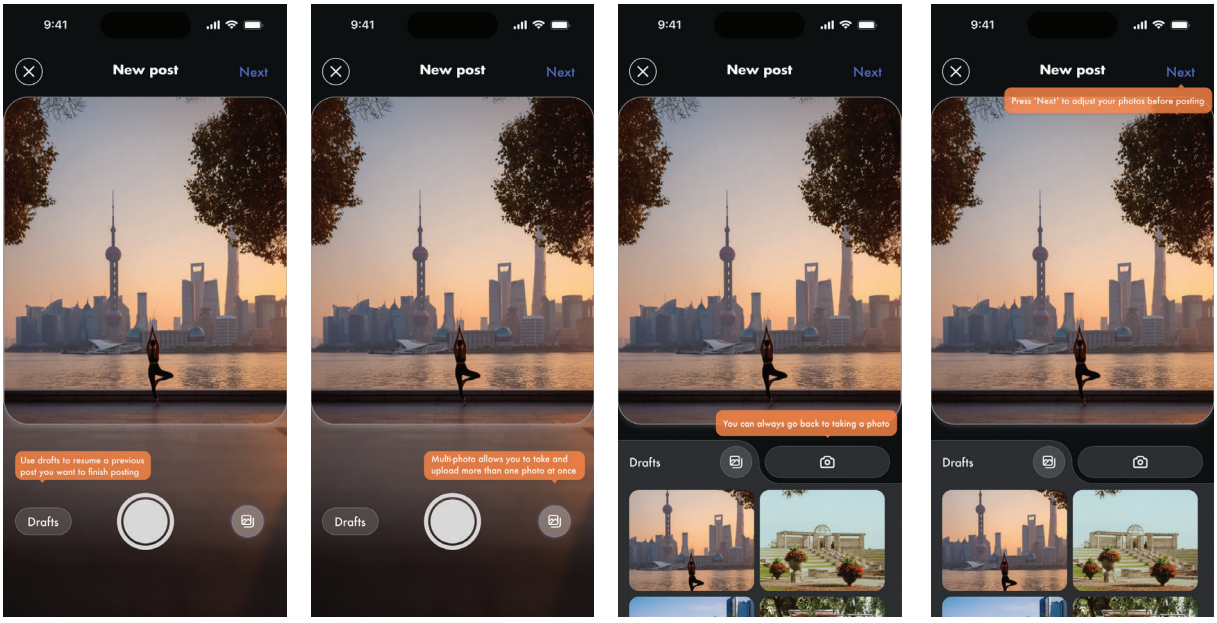


Image 177. *KOINOS - sharing - introduction guiding marks.*

Picture-taking page

Once instructions are dismissed, the user enters the camera mode:

Real-Time Camera Feed: Centre screen, with a clear shutter button at the bottom.

Import From Gallery: A small icon near top-left allows selecting an existing photo.

Flash Toggle & Camera Switch: Icons at corners for easy access.

See *Image 178. KOINOS - sharing – picture taking process.*

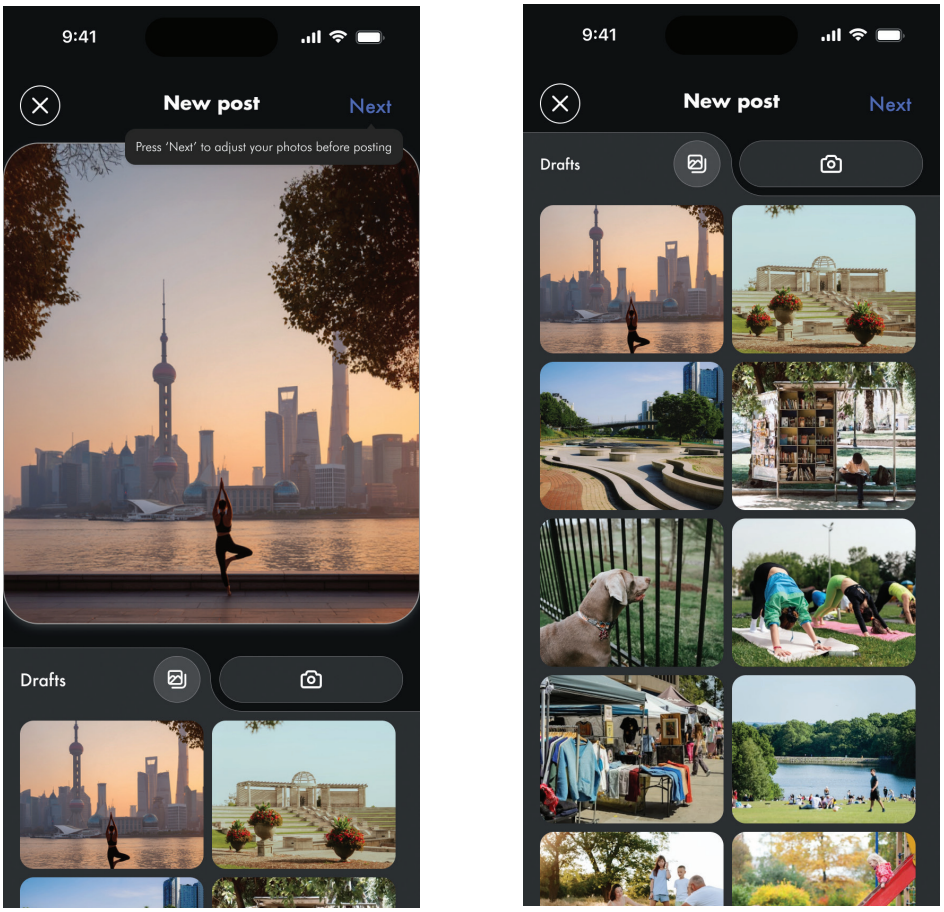


Image 178. *KOINOS - sharing - picture taking process.*

Photo-editing page

After taking or importing a photo, users see an edit panel:

Crop & Rotate: Basic geometry adjustments.

Illustration Filter: Replaces identifiable details with stylised outlines, protecting privacy

Brightness & Colour Adjust: For lighting corrections.

Selective Blur / Erase: Conceal any bystanders or sensitive info.

See *Image 179. KOINOS - sharing - picture editing process*

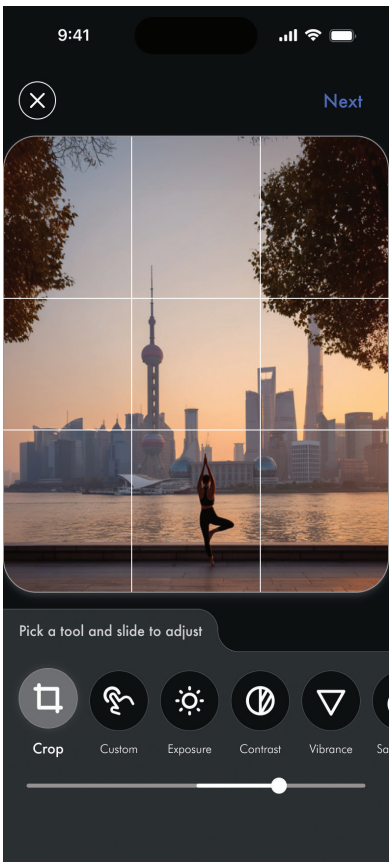


Image 179. *KOINOS – sharing – picture editing process.*

Tagging-process page

Tapping “Next” transitions to the tagging interface:

Six Main Categories: Step by step, each category will appear with all the subcategories. The main categories are 1st *natural*, 2nd *cultural*, 3rd *constructural*, 4th *emotions*, 5th *actions*, and 6th *ideas*, each with a distinct colour and icon.

Subcategory Prompts: Each subcategory will appear as a list of buttons to click easily, E.g., “Within *Natural*, “Weather: sunny, cloudy, rainy”, etc”

Text window for “Ideas”: This last category only has a window to write down any reflective thoughts.

Multiple Tagging: The tagging system is designed to encourage users to tag in all the subcategories, ensuring rich data.

See *Image 180. KOINOS - sharing - tagging process.*

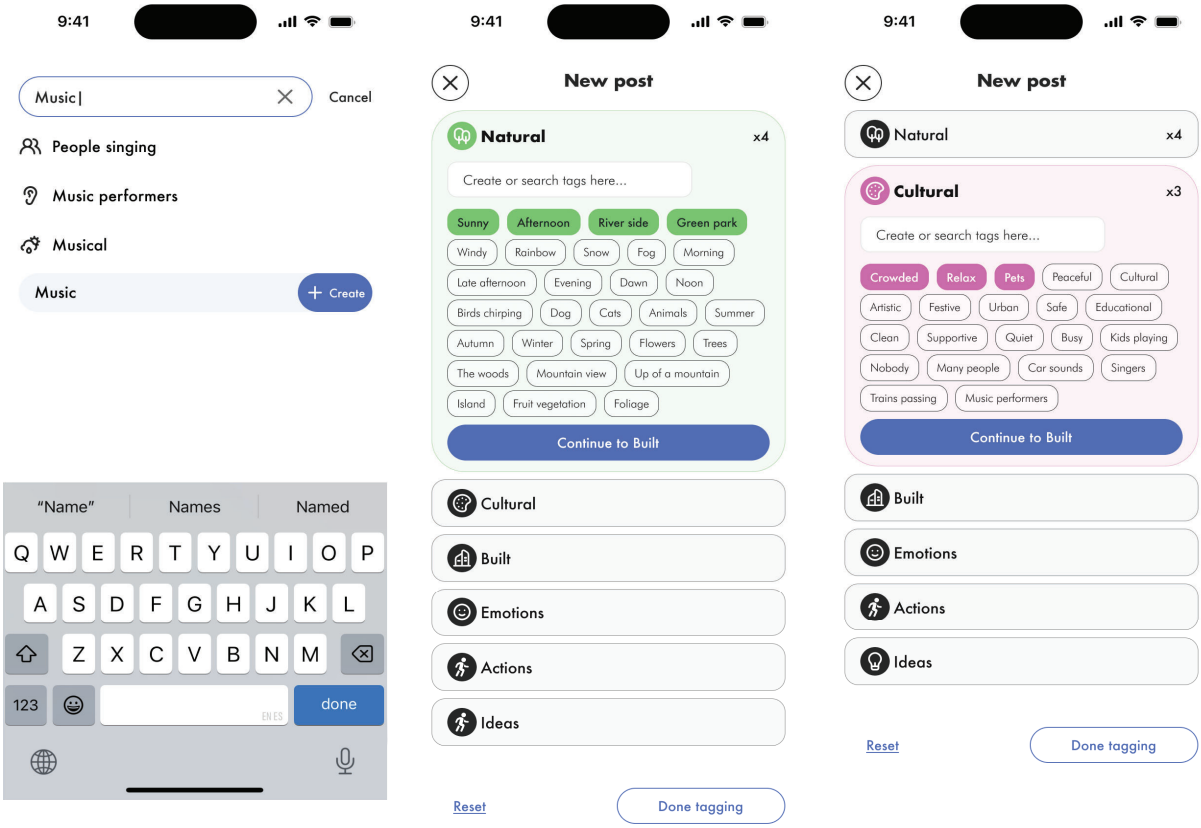


Image 180. *KOINOS - sharing - tagging process.*

Posting & linking page

A final preview lets the user:

Review chosen tags and photo edits.

Link to third-party platforms like, but not limited to, Instagram and Facebook, albeit only partial metadata to preserve *Koinos'* structured data.

Confirm or "Post Now." See *Image xxx. P5. KOINOS. Sharing page. Posting and linking process*

Reward Page (After Sharing)

Upon posting, a confetti animation or celebratory pop-up highlights the user's new credit earnings. This micro-celebration fosters a positive feedback loop. See *Image 181. KOINOS - sharing - posting and reward.*

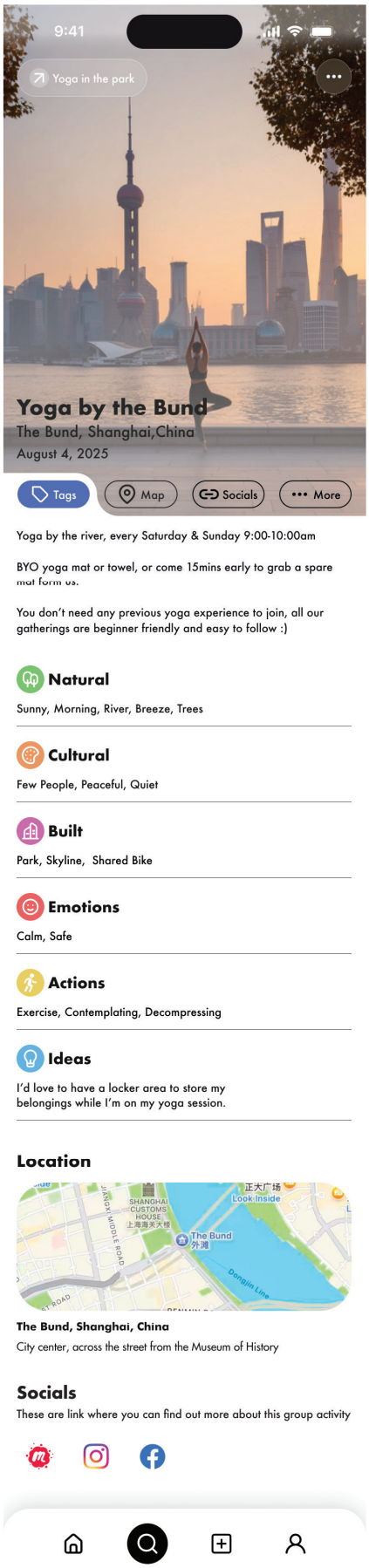


Image 181. *KOINOS – sharing - posting and reward.*

31.2.3.5. Search interface

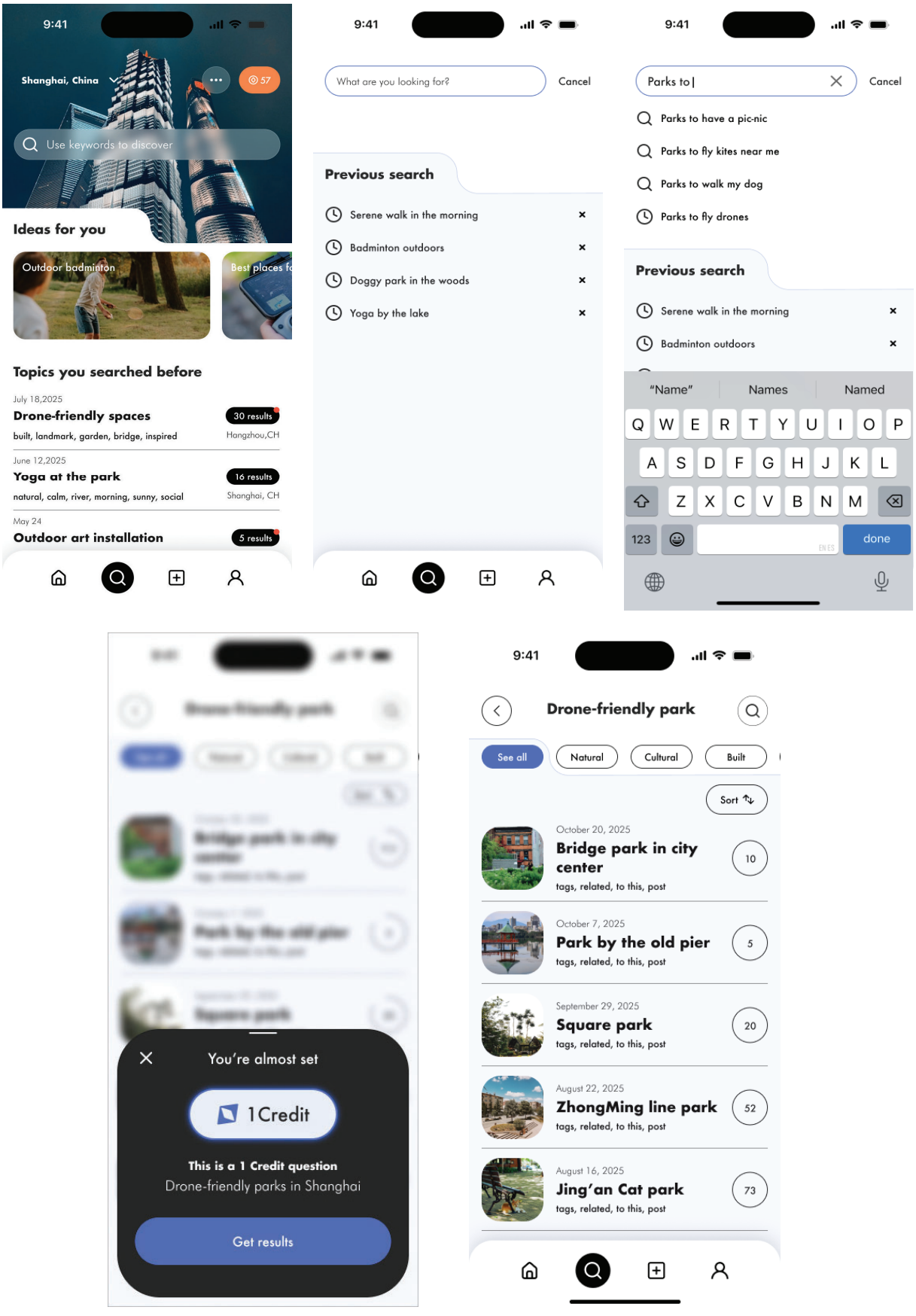


Image 182. *KOINOS - searching - asking process.*

When users tap the search icon to make their first inquiry, they are directed to a new page screen featuring a subtle message overlay that guides them through the searching process. Once they have started to type a new search, the app advances to the next step with another guiding overlay. This process continues until they successfully purchase their question. In this way, the app provides a step-by-step guide for users during their initial interaction, culminating in their first accomplishment and the credits spent.

First search

Users will receive one free query to allow them to interact with the app and familiarise themselves with its features and the quality of the information provided. Any subsequent searches will cost one (1) credit each. Free trials serve as a risk reduction mechanism for consumers facing uncertainty about product value, though their effectiveness depends on timing and implementation (Kahneman and Tversky 1984, 274–85). Research demonstrates that free trials help consumers evaluate products without financial commitment, with free offers being more readily accepted than paid alternatives (Hamari et al. 2014, 3026–32). The psychological foundation for free trials' effectiveness lies in prospect theory, where consumers exhibit risk aversion in gain domains and prefer certainty over uncertainty. Free trials also generate valuable consumer reviews that reduce uncertainty for future buyers, though companies must balance trial costs against expected benefits (Kahneman and Tversky 1984, 274–85). Additionally, Practical applications show that marketing principles incorporating reciprocity theory are more effective than traditional sales techniques for increasing program participation, particularly when combined with consumer-oriented approaches that address specific cultural and personal needs. Research demonstrates that reciprocity powerfully influences cooperation and public goods provisioning, with people more likely to help when their actions are observable and others are also cooperating (Rand et al. 2014, 3–8).

Search steps

Research on human-computer interaction emphasises the importance of managing information complexity to support user performance. Human-computer interaction is fundamentally an information-processing task where users must identify, select, and execute responses based on displayed information. A key challenge is reducing the gap between what users know and what they need to. Additionally, in search contexts,

people demonstrate different abilities for recalling versus recognising previously encountered information, with recognition often outperforming recall even when memory has degraded over time (Nielsen 1993, 115–20; Shneiderman et al. 2016, 96–98). With these considerations, *Koinos* proposes four steps for the search process.

Step one: tapping the search icon takes users to a search page where users find a search bar at the top for an open query. Below the search bar, when it has not been activated, are two sections. First, a suggestion list based on previous interactions, and second, a history list of the user's previous searches.

Step two: Interact with the content. Users can tap on the text field to activate the search bar, which gets highlighted by a new menu that allows users to focus on this one task.

Step three: When users start typing, the system will automatically provide predetermined answers to help speed up the search process.

Step four: Selecting a subquery debits 1 credit only upon accessing the final result page.

Asking again

A small pop-up confirms credit usage if chosen.

Results page

Once the user picks a subquery:

The main result page includes communicated categories (tags), popularity (users' percentage), and an interactive map with minimal visual clutter as a whole.

Answer page

Once the user picks a sub-query:

Main answer page (summary infographics) three further explorations methods: by categories (tags), by popularity (users' percentage), by map (interactive map) and a final pop-up window with the details of the posted experiences

Minimal visual clutter ensures quick data interpretation (Tufte 2006, 9)

Answer by categories page

Explore answers by tagged categories (list of experiences under categories)

Starting with 5 buttons (*natural*, *cultural*, *constructural*, *emotion* and *action*)

Inside each category (the “+” button in the subcategory)

Answer by map page

Interactive Map

Pins highlight best matches or recommended places:

Zoom and Pan Tools: Standard map gestures.

31.2.3.6. Saved and Shared interface

Saved and Shared page

When users tap Saved and Shared main bottoms bar:

Split-Screen or tiled layout offering “Categories” and “Map” tabs.

Search Bar: “Find your favourites…”

Saved and Shared information

Colour-coded pins for each saved location. Tap pin → pop-up with a snippet (photo thumbnail, user rating, etc.). A “Endorse Post” button to revisit original content (Brown and Kyttä 2014, 124–34). See *Image 183. KOINOS - Saved and Shared page*

Favourite by *tags* list

A List View grouped by the six main categories:

Thumbnails, short descriptions, or notes.

Icons to reorder or remove.

Option to rename items or add personal commentary.

Account Icon

Top-right corner, linking to:

Credit history, personal details, app preferences.

No dedicated “Messages” function exists in this iteration, notifications appear as red dots or pop-ups.

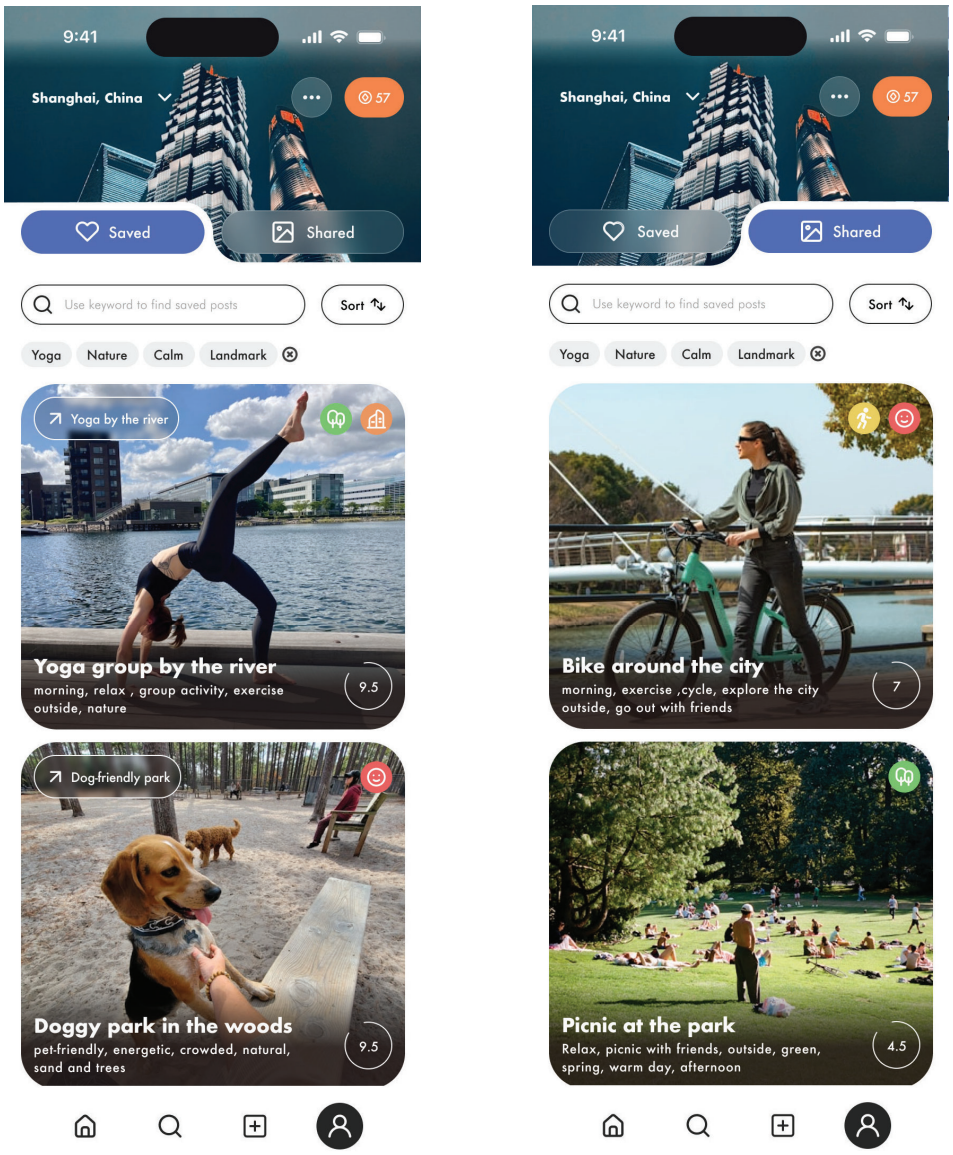


Image 183. *KOINOS - saved and shared pages.*

31.2.3.7. Full tagging system

A central feature of *Koinos* is a comprehensive *tagging* system, a structured yet adaptable taxonomy that captures the multifaceted character of urban life (Evans et al. 2002, 1–4; 2002, 222–25). By categorising each post or location into *natural*, *cultural*, *constructural*, *emotions*, *actions*, or *ideas*, the system combines consistency in labelling with a *holistic* perspective of how city dwellers observe and interact with their surroundings (Brown and Kyttä 2014, 124–34; Goodchild 2007, 211–21). This extensive approach ensures that participants move beyond superficial engagement: they actively shape collective urban insights by documenting physical attributes, social dynamics, personal emotions, and creative inspirations (Ma et al. 2021, 1–22).

1. *Natural* environment

The *Natural* category spotlights ecological and atmospheric elements, features tied to weather conditions, time of day, temperature ranges, ambient sounds, and other aspects of the outdoor setting that may affect or enhance the urban experience (Evans et al. 2002, 1–4, 222–25). Within *Koinos*, users can select from detailed sub- steps such as:

1.1. Season: winter, spring, summer, autumn, raining, dry, add, skip

1.2. Weather: sunny, cloudy, windy, rainy, stormy, rainbow, snow, mist, fog, moon, stars-full, add, skip

1.3. Time: early morning, morning, late morning, noon, early afternoon, afternoon, late afternoon, evening, late evening, dawn, add, skip

1.4. Temperature: -10°C, -5°C, 0°C, 5°C, 10°C, 15°C, 20°C, 25°C, 30°C, 35°C, 40°C, 45°C, add, skip

1.5. Sounds: sea waves, river, falls, birds, dogs, cats, wind, breeze, add, skip

1.6. Water features: sea, river, fall, lake, add, skip

1.7. Green features: volcano, mountain, hill, forest, trees, bushes, grass, flowers, blossoming, island, add, skip

Through these details, the application collects granular data on how environmental conditions influence comfort, mood, and usage patterns (Ma et al. 2021, 1–22). The “Add” and “Skip” options provide flexibility, letting contributors include additional descriptors or bypass irrelevant categories.

2. *Cultural* environment

An urban space’s *cultural* dimension encompasses the intangible and human- centred elements that shape a location’s identity, like crowd density, ambient atmosphere, audible cues, and characteristic smells (Brown and Kyttä 2014, 124–34). These intangible traits can profoundly affect how individuals perceive safety, sociability, or cultural richness:

2.1. Social crowd (density): nobody, few people, people, many people, crowded, add, skip

2.2.Atmosphere: relax, peaceful, mistic, sacred, cultural, educational, artistic, festive, sportive, urban, safe, clean, add, skip

2.3. Sound: quiet, people, cars, trains, planes, bicycles, music, busy, add, skip

2.4. Smells: restaurants, bakeries, bars, food markets, add, skip

Tagging these subcategories enables a nuanced portrayal of collective usage patterns, capturing how a bustling market contrasts with a tranquil park or how specific smells, like fresh bread or street food, evoke emotional connections (Brown and Kyttä 2014, 124–34; Wang and Burris 1997, 369–75).

3. *Constructural* environment

Reflecting the human-made core of cityscapes, the *constructural* category covers architectural forms, public spaces, transportation modes, and infrastructural networks (Evans et al. 2002, 222–25). By documenting *constructural* attributes, *Koinos* reveals how design decisions influence daily life.

3.1. Open-air public spaces: square/plaza, park, garden, promenade, marina, avenue, street, lane, pedestrian bridge, pedestrian boulevard, terrace, mountain, pond, swimming pool, sport features, entertainment-fair, amusement park, street market, add, skip

3.2. Visual references: landmark, skyline, intersection (street crossing), add, skip

3.3. Transportation systems: metro/subway, elevated metro, bus, tourist bus, monorail, cable car, funicular, tram, ferry, river-boat, taxi, didi, private car, motorbike, scooter, bike, sharing bike, skate, add, skip

3.4. Infrastructure: tunnel, trains-rails, highways, bridge, roundabout, bus lanes, bike lanes, skate parks, pedestrian bridge, pedestrian under-pass, parking lots, flood control, electric grid, add, skip

By subdividing urban form into these five subcategories, the system pinpoints everything from architectural landmarks to sprawling transport networks, shedding light on how each component underpins urban dynamics (Goodchild 2007, 211–21). Linking user perceptions to categories like Open-Air Public Spaces or Transportation Systems underscores the interplay between land use, mobility, and civic life (Evans et al. 2002, 1–4, 222–25). See *Image 184. KOINOS - complete tag system - natural, cultural and built.*

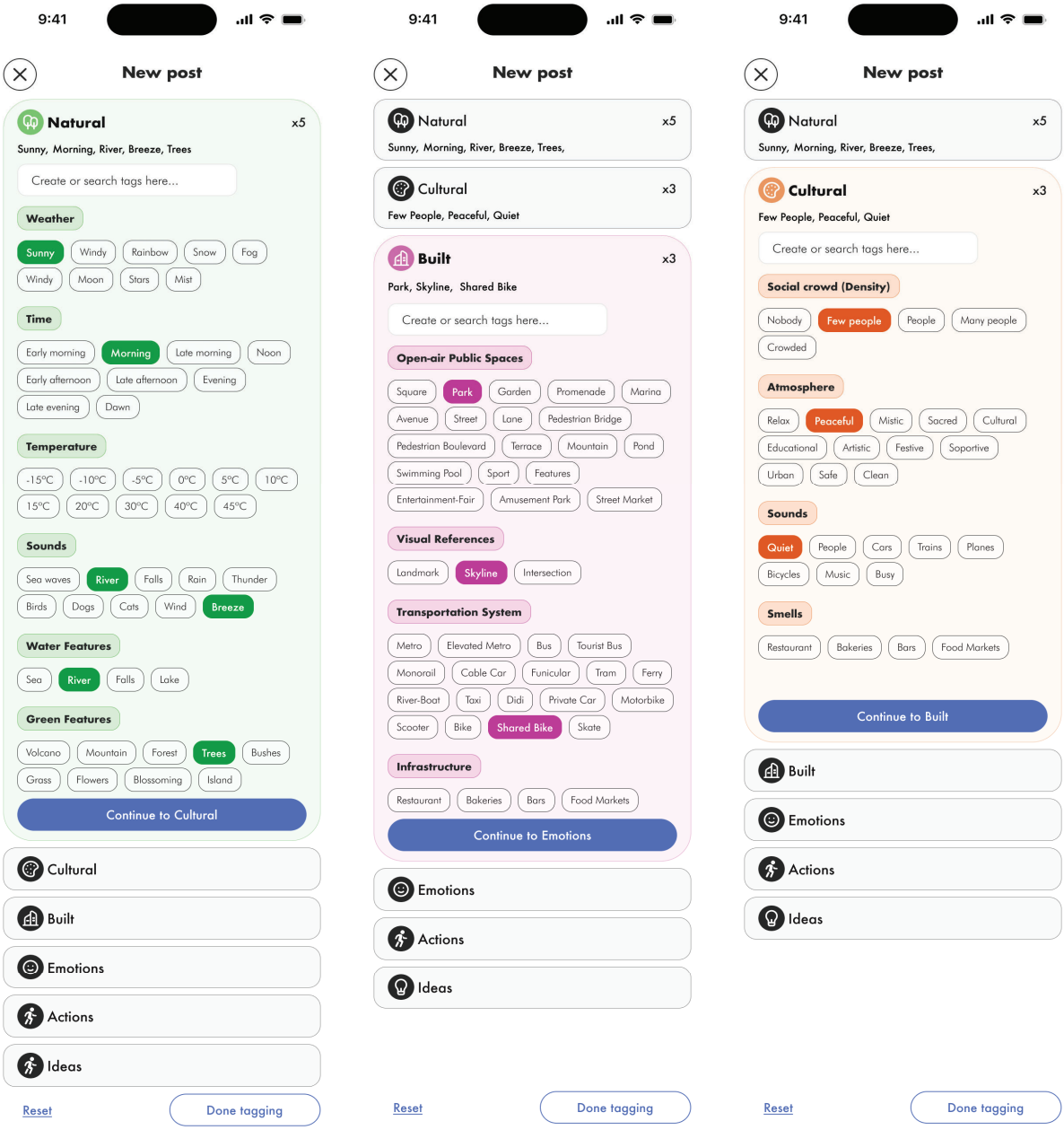


Image 184. *KOINOS - complete tag system - natural, cultural and built.*

4. Emotions Triggered

Distinct from tangible categories, Emotions Triggered records of immediate affective states. This subjective lens uncovers how a setting's look, sound, and social climate resonate with individuals on a personal level (Wang and Burris 1997, 369–75). Users can select from:

Calm, Comfort, Happy, Excited, Inspired, Surprised, Nostalgia, Add, Skip Mapping emotional hotspots across a city aids in identifying areas that induce, for example, feelings of tranquility versus those that spark inspiration (Ma et al. 2021, 1–22). Collating these data may guide future urban design interventions, e.g., making a busy underpass

safer and more pleasant, or replicating the vibe of a beloved festival plaza.

5. Actions Triggered

Cities often provoke or enable specific behaviours, whether strolling, exercising, or socialising. Actions Triggered measures these behavioural outcomes, painting a dynamic picture of how people use spaces (Evans et al. 2002, 1–4):

Working out, Jogging, Running, Seating, Laying down, Taking pictures, Taking selfies, Eating, Drinking, Shopping, Biking, Skating, Driving, Walking, Working, Thinking, Calling, Smoking, Playing, Dancing, Add, Skip

Through this lens, *Koinos* highlights the reciprocity between *constructural* form and human agency: for instance, do wide sidewalks invite joggers or do well-lit paths encourage night-time strolling? Understanding these behavioural cues can inform city stakeholders on how to better accommodate or encourage desired activities (Iachello and Hong 2007, 21–29).

6. Ideas Triggered

Finally, Ideas Triggered serves as an open-ended portal for creativity and user- driven innovation (Brown and Kyttä 2014, 132–34). Rather than relying solely on predefined checkboxes, this category invites free-text input where contributors can share reflections, proposals, or imaginative visions for enhancing urban life. The result is a repository of grassroots-level suggestions:

(A free-text window for users to write and post their reflections, suggestions, or ideas about how the experience made them feel and what could be improved.)

Analysing these unstructured insights reveals emergent themes, be they calls for more green walkways or novel cultural initiatives, thus elevating *Koinos* beyond mere data collection to a genuine bottom-up development tool (Goodchild 2007, 211– 14). See *Image 184. KOINOS - complete tag system - natural, cultural and built*

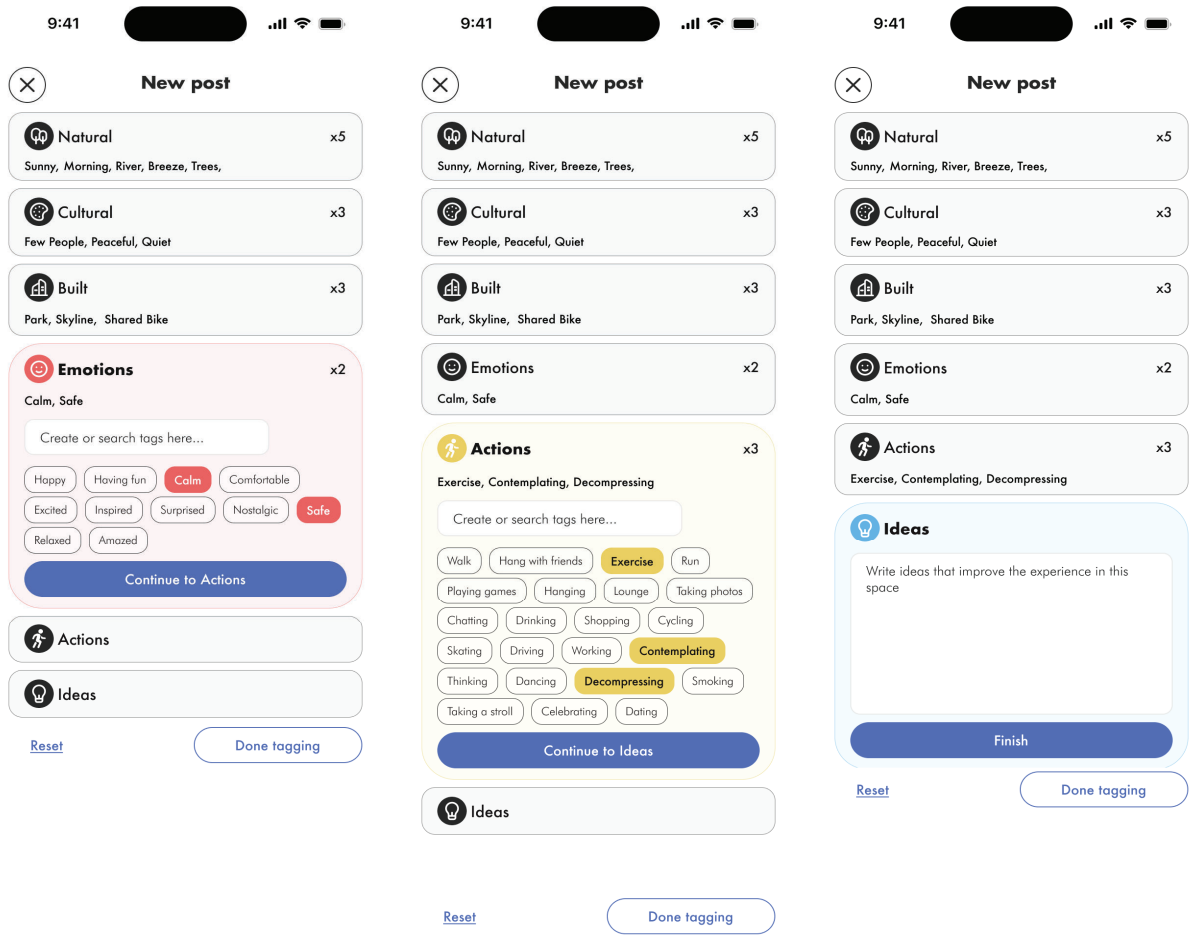


Image 185. *KOINOS - complete tag system - emotions, actions and ideas.*

31.2.3.8. Users' credit system

Earning Credits

Each new post (photo + tags) nets a default of 10 credits, and Each endorsement (verification + photo + tags) nets a default of 15 credits (Hamari et al. 2014, 3027–30). This reciprocal model ensures that those who rely on data contribute back to it.

Spending Credits

1 credit is deducted upon accessing advanced queries in the Asking interface. Merely typing questions or browsing initial suggestions is cost-free (Nielsen 1993, 115–20).

Transparency

A Credit Counter on the Welcome Page displays current credits, linking to a transaction log. Users can see how many credits were gained (by posting/endorsing) vs. spent (on queries) (Shneiderman et al. 2016, 89–93).

Impact

By correlating knowledge access with participatory actions, the system discourages spam and fosters a higher-quality dataset (Brown and Kyttä 2014, 122– 36). No monetary transactions occur, only a symbolic exchange of engagement for deeper data insights.

31.2.3.9. Reward display and awareness campaign system

Reward Pages

Anytime a user finalises a post (*Sharing*) or query (*Asking*), they see a celebratory screen:

Confetti Animation or “Sparkling Stars”

A “Funk Fact” about local biodiversity or an anecdote about city heritage (Hamari et al. 2014, 3027–32; Koivisto and Hamari 2019, 198–205)

Awareness Campaigns

Periodic system-driven prompts encourage targeted participation:

Night-time Public Safety: Spot well-lit pedestrian areas.

Hidden Heritage: Uncover lesser-known historical landmarks (Brown and Kyttä 2014, 124–34).

These appear as banner pop-ups on the Welcome Page, often awarding bonus credits or recognition badges for related posts.

Linking Rewards, Credits, and Urban Education

The synergy between short “Funk Facts,” credit earnings, and city-level objectives personalises each user’s journey (Koivisto and Hamari 2019, 198–205). Over time, repeated micro-celebrations and awareness themes deepen the sense of urban stewardship, turning data sharing into a meaningful civic act (Goodchild 2007, 211–21).

Future Expansions

Cities or local organisations may sponsor tailor-made challenges, e.g., “Photograph 5 public art installations,” awarding extra credit or featuring top contributors in local campaigns. This approach merges personal gratification with building a robust civic knowledge base.

31.2.3.10. Data visualisation and AI capabilities

One of *Koinos*' distinguishing features lies in its data visualisation and evolving AI capabilities, which convert user-generated inputs into digestible, action-oriented insights (Tufte 2006, 9). Drawing on best practices in participatory GIS (Goodchild 2007, 211–21), the app leverages interactive maps, infographics, and dynamic dashboards to reveal spatial-temporal patterns, such as how crowd density changes with weather or which urban corners evoke emotions like nostalgia or excitement (Ma et al. 2021, 1–18). These visual representations are carefully designed: minimalistic charts clarify numeric metrics (e.g., user satisfaction percentages), while iconographic overlays show tags that highlight *natural*, *cultural*, or *constructural* environment attributes in real-time. By foregrounding clarity over complexity, *Koinos* adheres to well-known guidelines around "*data-ink ratio*" and "*visual layering*", which help users rapidly interpret findings (Nielsen 1993, 115–42; Tufte 2006, 9).

In tandem, the platform can progressively integrate machine learning and AI to enhance recommendation systems and predictive analytics. For example, an AI- driven model might suggest best practices for city officials to manage weekend crowding at popular parks based on historical data that merges crowd density tags, local event schedules, and climate patterns (Iachello and Hong 2007, 1–5, 55–65). Similarly, a sentiment analysis engine could process textual "*Ideas Triggered*" entries to cluster emergent proposals or locate pain points within the city. By automating data classification and anomaly detection, the AI pipeline may alert authorities if an unusual spike in negative emotions arises in a particular district, prompting a timely investigation. Throughout these processes, transparency is key: ensuring users remain informed about how their data contributes to aggregated AI insights preserves trust (Iachello and Hong 2007, 1–5, 55–65). Ultimately, a strategic fusion of visual clarity and machine intelligence elevates *Koinos* from a mere feedback platform to a dynamic learning ecosystem that evolves alongside its urban environment.

31.2.3.11. Monetisation and growth strategies

While *Koinos*' primary goal is fostering participatory urbanism, a sustainable monetisation approach can ensure the platform's longevity without undermining its core ethos. First and foremost, the app avoids excessive advertising to preserve data authenticity (Iachello and Hong 2007, 1–5, 55–65). Instead, monetisation may follow three complementary avenues:

Premium Collaboration with City Authorities: Municipal governments could pay subscription fees to access advanced analytics dashboards, curated reports, or custom data queries. In return, authorities receive robust evidence for decision- making, an arrangement that invests in both improved governance and platform upkeep (Evans et al. 2002, 222–25).

Partnered Urban Campaigns: Carefully vetted local businesses or cultural institutions that might sponsor specific awareness drives, e.g., highlighting new bike lanes or heritage site restorations, while *Koinos* integrates relevant promotional *Funk Facts*. This method draws from brand-driven civic engagement, preserving user trust through disclaimers and transparent brand alignment (Iachello and Hong 2007, 4–5, 55–65).

Consulting and White-Label Services: As the platform matures, it can offer white-label versions for other cities or organisations eager to replicate the success of user-driven data insights. This "*replication model*" ensures growth across diverse contexts, from smaller towns to sprawling megacities, while generating revenue through implementation and customisation fees (Goodchild 2007, 211–21).

Growth is facilitated by network effects: as more users contribute local insights, the app's data density rises, improving the quality and depth of recommendations (Iachello and Hong 2007, 1–5, 55–65). By systematically engaging local influencers, universities, and NGOs, *Koinos* can expand user adoption organically via word-of- mouth and embedded marketing in community events. Crucially, any monetisation strategy must preserve user trust: personal data remains anonymised and aggregated, while the credit system deters exploitative behaviour. This approach underscores *Koinos*' guiding principle: scaling responsibly to ensure collective well-being and sustainable urban transformation drive financial models rather than mere profit motives.

31.2.3.12. UI / UX recommendations

A well-crafted User Interface (UI) and User Experience (UX) encourage seamless interaction, foster trust and support repeated engagement (Nielsen 1993, 138–42). Core recommendations for *Koinos* include:

Consistency in the layout: Each screen, whether Welcome, Sharing, Asking or Favourites, should share familiar navigation cues (bottom bar icons, top bar credit display). Such consistency shortens the learning curve and reinforces brand identity (Iachello and Hong 2007, 1–5, 55–65).

Clear hierarchy and labelling: Headings for categories like *natural* or *cultural* must be visually distinct from the subcategory text. Buttons should be large and labelled with concise verbs (e.g., “Tag,” “Endorse,” and “Enquire”) to guide user action unambiguously (Iachello and Hong 2007, 1–5, 55–65).

Minimal cognitive load: Progressively disclose content, e.g., showing sub-tags only after a main category is chosen, so novices aren’t overwhelmed. Simple interactive tutorials demonstrate advanced features like editing images or refining enquiries (Nielsen 1993, 115–42).

Inclusive design: Ensure colour contrasts meet accessibility standards (WCAG 2.1) and incorporate language translations or culturally relevant examples. Some users may prefer textual instructions over icons or require voice guidance (Wang and Burris 1997, 370–85).

Visual feedback loops: Subtle animation or haptic feedback when users post or endorse a location helps them understand system responses. Confetti or *Funk Fact* pop-ups reinforce achievements, motivating further engagement (Iachello and Hong 2007, 1–5, 55–65).

31.2.3.13. Next steps

With the core modules and design ethos established, the *next steps* for *Koinos* involve both technical refinements and community-building efforts:

Expanded beta testing: Conduct pilot deployments in diverse city contexts, like large metropolitan areas, mid-sized towns, and tourist destinations, to gather feedback on tag relevance, performance, and UI clarity (Iachello and Hong 2007, 21–29).

Iterative feature enhancements: Incorporate advanced AI functionalities, such as automated image recognition for preliminary tagging suggestions, or sentiment analysis for “*Ideas Triggered*” (Ma et al. 2021, 1–18). Ongoing user feedback loops inform whether these enhancements genuinely improve the user experience.

Municipal partnerships: Formalise collaborations with city councils and urban planners, leveraging memorandums of understanding to embed *Koinos* data in official planning processes (Healey 1998, 1532–46). This fosters co-ownership, broadening the app’s credibility and reach.

Community engagement campaigns: Launch “*themed challenges*” or “*photowalk*

sessions" in local neighbourhoods to stimulate data submission, emphasising the credit system's synergy with communal participation (Iachello and Hong 2007, 4–5, 55–65).

Scalability and internationalisation: Update language packs, adapt UI design to cross-cultural nuances, and expand technical infrastructure to handle large user bases across multiple cities.

Long-Term sustainability: Implement transparent governance and an advisory board (including user representatives, city officials, and academic experts) to steer platform evolution responsibly (Brown and Kyttä 2014, 124–34).

Through these concerted steps, *Koinos* evolves from a promising participatory app into a globally adaptable solution, harnessing the vitality of urban life to shape more desirable, inclusive cities (Goodchild 2007, 211–21; Wang and Burris 1997, 370–85).

31.2.4. *Koinos* integration with *Desirable Cities'* research findings

Desirable Cities' extensive empirical experimentation provided the critical foundation for the design of the *Koinos* app. Iterative prototypes and user studies conducted by *Desirable Cities* over four years of empirical trials ensured that each feature of *Koinos* is deeply rooted in real user experiences. A central challenge in this process was translating rich qualitative insights from small-scale experiments into a scalable, quantitative tool without losing depth. Prior research in participatory

Geographic Information Systems has emphasised the importance of preserving local voices even as data are aggregated (Goodchild 2007, 211–21). *Koinos* bridges individual "micro" urban experiences with aggregated "macro" patterns. The following subsections detail how specific prototypes and methodologies from the *Desirable Cities* research informed the design and functionality of *Koinos*, demonstrating an evidence-based evolution from qualitative insight to quantitative application.

31.2.4.1. *Ca(p)mera*: Participant-driven photo capture

Desirable Cities' early empirical work, most notably through the *Picture-naire* prototype, demonstrated the power of participant-driven photographs in capturing urban desirability's nuances. In this trial (*See Appendix Five*), participants were given

an iPad and instructed to photograph spaces and highlight what they found appealing or meaningful. This exercise confirmed that when users actively frame their favourite images of their city, they highlight aspects that conventional surveys might overlook (Wang and Burris 1997, 371–73).

In the case of the *Ca(p)mera*, *Desirable Cities* developed this prototype as a blend of unobtrusive observation tools within a dynamic real-world interaction. Designed as a compact camera discreetly mounted on a cap, it proves the value of using everyday items, such as a cap, in facilitating ethnographic data collection. This translated into *Koinos* as an inspired the idea of using one of the most popular items of urban culture today (mobile phones) and its related phenomena of people's recurrent habit of posting daily activities as the backbone of the *Desirable City*'s scaling-up approach.

Thus, Insights from the *Desirable Cities*' *Picture-naire* and *Ca(p)mera* trials directly informed *Koinos*' general concept and photo-capturing features within the *sharing* interface. This feature empowers users to act as urban storytellers by using their smartphone cameras to document what they love about their city. The feature ensures that the content reflects genuine, participant-driven values by allowing users to decide when and what to capture. As such, each photo contributes to a "collective urban catalogue" of desirable experiences grounded in authentic lived experience. Moreover, by shifting the role of data collection from the researcher to the participant, this approach mitigates potential researcher bias and aligns with participatory photovoice methodologies (Wang and Burris 1997, 371–75).

31.2.4.2. *Emotion-naire Cards*: Reducing capture's background noise

While participant photos are rich in detail, preliminary experiments revealed that not all elements captured are pertinent to assessing urban desirability. *Desirable Cities*' trials with the *Photo-naire* showed how sites' photos sometimes included distracting background elements or visual obstacles at the front that obscured the primary focus of the photo. The subsequent development of the *Graphic-naire* prototype addressed this issue by converting photos into illustrations that isolated the core subject of the photo with a plain background. This process eventually evolved into the *Emotion-naire Cards*.

Koinos incorporates this insight in the form of a photo editing filter that lets users edit their pictures before being posted. This filter allows the deletion of irrelevant details if the circumstances require it, facilitating the reduction of background noise and the

conversion of a picture into an illustration without losing meaningful visual qualities. Both options facilitate the possibility for users to highlight the core experience captured in their pictures. See *Image 177* on page 524.

31.2.4.3. *Structure-naire Canvas*: Measurements for capture's tagging

Another key insight from *Desirable Cities* was the need for a structured tagging system to complement the photographs posted by the users. The *Structure-naire Canvas* emerged as a tool to translate the theoretical framework and concepts of urban desirability into a practical interface for participants. The literature review within *Desirable Cities* identified six core categories relevant to *holistic* urban development: *natural*, *cultural*, and *constructural* environments, along with *emotions*, *actions*, and *ideas*. These six categories were refined through empirical testing and, in this final translation from qualitative to quantitative research, were converted into a set of structured, simple-selection tagging buttons within *Koinos*.

This tagging system standardises user input by allowing them to select their qualitative perceptions of the posted image from a predefined palette of clicked buttons on the screen. *Desirable Cities*' empirical validation (*See Appendix Five* and *Research Results*) demonstrated that nearly all participant observations mentioned words like "Sunny", "Garden", "Birds", "People", "Skyline", and "Picnic" to describe their experiences, confirming that *Koinos*' tagging system is relevant and consistent with the *Desirable Cities*' theoretical framework and findings. The tag system facilitates individual expression and enables systematic comparison and analysis across diverse users by converting structured open questions into structured, rich, and diverse user- friendly simple-selection options.

31.2.4.4. From Walk to Talk: Collecting micro-singular nuances into macro-collective patterns

The transition from *Stately-Walks* and *Chatty-Walks* to *Insightful-Talks* and *Playful-Talks* revealed significant nuances in capturing urban experiences. Walking interviews captured micro-level details, such as spontaneous remarks, body language, and in-the-moment reactions, while talking interviews, with the *Tools Group*, provided a means to contextualise these experiences within a broader urban framework. This dual approach facilitated a deeper understanding of how singular experiences contribute to collective urban narratives.

In *Koinos*, this methodology is implemented through a dual interface: a *Sharing* interface that captures individual moments and an *Asking* interface that aggregates these singular moments into macro-level patterns. This design ensures that each singular input remains contextually rich and contributes to a collective dataset that informs city-wide urban trends. Such a mechanism is similar to the process observed in "*Volunteered Geographic Information*" (*VGI*), where individual contributions are aggregated to reveal broader patterns (Goodchild 2007, 211–14). By integrating micro-level insights into macro-level visual maps and dashboards of user post statistics, city stakeholders can discern collective urban identities and preferences while still recognising the value of individual experiences.

31.2.4.5. Empirical foundations and scalable Design

Synthesising the adaptations described above, *Koinos* emerges as an empirically grounded tool designed for scale. Each app feature and the dual *Sharing* / *Asking* interface can be directly traced back to specific findings from the *Desirable Cities*. This robust empirical foundation confers high credibility and rigour upon the app, ensuring it resonates with individual users and collective urban stakeholders.

A central design challenge was to scale up participation without sacrificing the richness of singular inputs. Many digital participation platforms tend to dilute individual voices in the aggregation process. In contrast, *Koinos* retains the detailed quality of each photo and personal sentiment while applying quantitative techniques such as standardised tagging, data visualisation, and pattern detection. The app's interface enables *city makers* to enquire about quantitative data derived from aggregated patterns, thereby updating the *city users*' insights pool.

By translating *Desirable Cities*' qualitative findings into a large-scale model, *Koinos* offers a blueprint for effectively scaling up qualitative research. It treats individual inputs not as mere singular anecdotes but as interconnected data points that, when networked, reveal comprehensive urban trends and insights. The resulting dataset is richly layered and accessible, empowering city stakeholders to make informed decisions that align urban development with the community's lived experiences and their expectations. In this way, *Koinos* exemplifies translating rigorous doctoral research into a practical, scalable application that maintains a delicate balance between quantitative robustness and qualitative depth.

31.2.5. *Koinos* scaling feasibility and limitations

31.2.5.1. Technical feasibility and platform scalability

Ensuring a robust technical architecture is crucial for *Koinos* to sustain ongoing growth and reliably handle fluctuations in user demand (Burns et al. 2016, 70–73; Jamshidi et al. 2018, 24–27). In line with emerging best practices in cloud-based deployments, the platform is designed with a microservice framework that modularises functionalities, such as the Sharing Interface, Enquiring Interface, and Reward Display, into distinct, yet inter-operable components (Jamshidi et al. 2018, 28–31). This modular design allows for horizontal scaling when specific services, like image processing or data analytics, experience sudden usage spikes. Employing containerisation (e.g., Docker or Kubernetes) further improves resource allocation and fault tolerance, ensuring that the app remains responsive even during peak traffic periods (Bernstein 2014, 81–84; Burns et al. 2016, 70–78).

To handle extensive data capture, ranging from high-resolution photographs to AI-driven tagging suggestions, *Koinos* relies on distributed storage solutions. These systems replicate data across multiple nodes, improving resilience against downtime and data loss (Ghemawat et al. 2003, 29–41). In practice, geographic replication ensures that regional deployments of *Koinos* remain fast and reliable, even for users in bandwidth-constrained areas (Burns et al. 2016, 83–89). The platform also integrates caching layers near its front-end services, minimising latency when users load repeated content. Consistent with large-scale consumer platforms, this approach enhances user satisfaction by preventing slow screen loads or lags, common pitfalls in data-intensive apps (Nah 2004, 153–63; Nielsen 1993, 134–38)

Crucially, the app's AI capabilities, such as sentiment analysis for "*Ideas Triggered*" or object recognition in user photos, can be implemented via cloud-based machine learning APIs that scale on demand, further ensuring efficient resource usage (Jamshidi et al. 2018, 30–33). By delegating computationally heavy tasks to specialised services only when required, *Koinos* avoids bottlenecks in routine operations. Therefore, the app's architecture embraces elasticity, allowing computational resources to expand or contract in real time. Such scalability safeguards the continuity of *Koinos*' participatory ethos by preventing technology infrastructure from becoming a limiting factor in user engagement or data-driven decision-making (Brown and Kyttä 2014, 124–34).

Finally, cybersecurity measures, such as routine code audits, encryption at rest and in transit, and multi-factor authentication for administrators, reinforce the platform's

credibility (Iachello and Hong 2007, 4–5, 55–65). Users and city stakeholders alike can trust that *Koinos* handles large-scale data flows effectively and upholds confidentiality and data integrity. Collectively, these technical underpinnings ensure that *Koinos* can expand its user base across multiple localities or integrate with diverse municipal networks, sustaining the platform's role as a credible enabler of collaborative urban knowledge (Goodchild 2007, 211–14).

31.2.5.2. Social scalability and user engagements

Beyond the app's technical backbone, *Koinos*' success also depends on social scalability and its ability to welcome ever-wider circles of participants without diluting the sense of meaningful engagement (Brown and Kyttä 2014, 124–29). Central to this ambition is a deliberately inclusive user experience. By blending approachable design cues, such as large icons and intuitive layouts, the platform caters to a spectrum of digital literacies (Nielsen 1993, 115–18, 134–42). Accessibility considerations, such as language localisation, the option to skip advanced tutorials, and an interface that accommodates older devices, help expand the user base across varying socio- economic or cultural contexts (Wang and Burris 1997, 370–84). In *Desirable Cities*' terms, this accessibility strategy safeguards the representativeness of *Cities' PIDs* at scale.

A comprehensive credit system, where users earn credits by posting or endorsing content, then spend those credits to access advanced Enquiring results, fosters reciprocity between "data providers" and "data consumers" (Koivisto and Hamari 2019, 197–202). This mutualistic design encourages new users to contribute while allowing passive browsers to gradually morph into active participants, thereby organically scaling the app's data pool. Equally, the app's reward and awareness campaign structure, featuring *Funk Facts* and city-level achievements, nurtures a collective ethos: individual engagement translates into shared urban insights, prompting a continuous feedback loop that heightens user retention.

Additionally, a well-thought-out social engagement policy informs how *Koinos* manages user conflicts, content moderation, and potential data misrepresentations. Setting clear community guidelines, e.g., restricting explicit content or disallowing unsolicited endorsements, ensures that the platform atmosphere remains constructive as the user community widens (Goodchild 2007, 215–19). Encouraging endorsements and validations from multiple users, such as checking if a location is genuinely "Quiet" or "Festive," also harnesses the "wisdom of the crowd" to enhance data reliability. By

interweaving straightforward mechanics (like endorsing or adding favourites) with deeper functionalities (like custom tagging and AI-driven suggestions), *Koinos* scales socially without sacrificing user relevance or academic rigour (Brown and Kyttä 2014, 132–34; Ma et al. 2021, 2–3, 14–18).

Finally, the potential for local partnerships, with schools, neighbourhood associations or municipal cultural offices, can catalyse new waves of adopters who see the platform not merely as entertainment but as a collaborative planning instrument. Organised photo-walks, hackathons, or thematic city campaigns (on sustainability, mobility, or cultural heritage) can rope in diverse user demographics (Wang and Burris 1997, 370–84). In these ways, social scalability emerges as both a design consideration and a strategic outreach plan, forging a vibrant, self-sustaining community that builds on each other's knowledge to shape more desirable urban futures (Ma et al. 2021, 1–3, 14–18).

31.2.5.3. Limitations and mitigation strategies

Despite its strengths, *Koinos* must contend with constraints that may compromise data completeness, representativeness, or long-term viability. One inherent challenge is uneven user participation: certain demographic groups may lack access to smartphones or stable internet, distorting the dataset toward digitally literate, often younger, urban populations (Brown and Kyttä 2014, 127–33). To mitigate this bias, offline-friendly modes and localised training workshops can broaden participation, while city-backed digital inclusion drives help ensure broader cross- section engagement (Goodchild 2007, 217–19). Encouraging multiple language interfaces and culturally attuned prompts also lowers barriers for marginalised communities (Wang and Burris 1997, 380–85).

Another vulnerability stems from data validation: volunteer-contributed content, especially emotional or ideas-based tags, can be subjective or occasionally inaccurate. Incorporating endorsement checks and system prompts for re-verification, such as "Are you sure this location is a 'Religious Building'?", can refine data authenticity over time. Additionally, a weighted credibility score, factoring in a user's endorsement history or track record of accurate tagging, may improve data reliability. As the dataset grows, advanced machine learning methods can flag suspicious anomalies, like contradictory crowd density tags or improbable temperature ranges, requiring moderation or user review (Ma et al. 2021, 14–18).

Privacy emerges as a third limitation if not addressed transparently. Posting user

photos or capturing geolocation data can raise ethical issues around anonymity, consent, and data usage (Iachello and Hong 2007, 4–5, 55–65). Detailed disclaimers, easily configurable privacy settings, and secure data-handling protocols (e.g., encrypted storage and anonymised analytics) help mitigate these concerns. Following standards like the General Data Protection Regulation (GDPR) for EU-based users further reinforces the app's legitimacy.

Finally, economic and institutional constraints can hamper growth if municipal authorities or local communities lack resources to support the platform's continuous development. *Koinos* counters this risk by advocating a collaborative business model, forging public-private partnerships and offering modular licensing or consulting services to offset operational costs. Regularly updating the user interface, rolling out fresh awareness campaigns, and refining technical features ensure the platform remains relevant, retaining user interest and stakeholder backing (Brown and Kyttä 2014, 132–34; Goodchild 2007, 217–19).

Therefore, while *Koinos* faces real constraints tied to digital divides, data integrity, privacy, and fiscal sustainability, each challenge can be substantially reduced through proactive mitigation strategies that blend inclusive outreach, iterative design, robust governance, and transparent communication (Wang and Burris 1997, 380–85). By systematically addressing these limitations, the platform stands poised to amplify the voices of diverse city residents and seed evidence-based urban innovations that align with the broader vision of more desirable, liveable urban environments.

31.2.6. *Koinos* ethical and practical consideration for deployment

31.2.6.1. Privacy and data security

Protecting user privacy and ensuring data security are paramount in a participatory platform like *Koinos* (Iachello and Hong 2007, 1–5, 55–65). The app collects both personal (e.g., user profiles, geolocation data) and contextual (e.g., photos of city spaces, textual "Ideas Triggered") information, thus requiring stringent safeguards at every stage of data processing.

Data Minimisation and Anonymisation

Koinos implements a data minimisation principle, collecting only the essential information for user engagement and urban analysis. Identifying details, such as exact names or residential addresses, are optional whenever possible. Geolocation data is

stored in aggregated or offset form (e.g., rounding coordinates to a small radius) to reduce the risk of pinpointing individual residences (Goodchild 2007, 211–21; Iachello and Hong 2007, 21–29). Meanwhile, advanced tags or AI analyses are linked to anonymised user IDs, thus separating personal identifiers from granular activity logs.

Secure Storage and Encryption

All user-generated content (photographs, textual posts) is encrypted at rest using modern cryptographic standards (e.g., AES-256). Encrypted communication channels (TLS/SSL) protect data in transit between the user's device and back-end servers. Regular security audits and penetration testing further reduce vulnerabilities, ensuring the platform's architecture can withstand potential breaches (Iachello and Hong 2007, 55–65).

Granular Consent Mechanisms

During registration, users are presented with a concise privacy policy explaining how their contributions will be utilised and shared. They can control location accuracy, manage content visibility (e.g., restricting posted images to partial anonymity), and opt out of specific data uses, including targeted awareness campaigns or advanced analytics (Wang and Burris 1997, 370–85). By granting granular consent controls, *Koinos* aligns with best practices in platform governance, promoting user trust and autonomy (Nielsen 1993, 138–42).

Compliance with Legal Frameworks

Where applicable, *Koinos* adheres to regulations like the General Data Protection Regulation (GDPR) in the EU or other regional data protection laws, ensuring explicit user consent for data usage and providing clear procedures for data erasure or portability (Brown and Kyttä 2014, 122–36). This compliance further legitimises the platform for municipal partnerships, lending institutional confidence to city stakeholders (Healey 1998, 1536–42).

31.2.6.2. Bias and inclusivity

One of *Koinos*' core intentions is to be inclusive and representative of urban

populations, yet participatory projects may inadvertently reinforce existing biases if not carefully designed (Brown and Kyttä 2014, 127–34). Bias can manifest in multiple ways: racial or ethnic underrepresentation in platform usage, overemphasis on technologically proficient users, or overshadowing of marginalised neighbourhoods.

Digital Divide

Limited internet access or smartphone ownership can disproportionately exclude certain socio-economic groups (Wang and Burris 1997, 380–85). To counter this, *Koinos* supports offline submission modes and fosters partnerships with public libraries, community centres, or NGOs that provide free Wi-Fi or device-sharing. This approach ensures that the platform's scope is not limited to affluent, tech-literate demographics (Nielsen 1993, 115–18).

Language and Cultural Sensitivity

Localisation efforts, such as translating the interface into multiple languages and allowing region-specific prompts, help reflect the cultural heterogeneity of city populations. Where relevant, the tagging categories (*natural*, *cultural*, *constructural*) and subcategories (e.g., religious festivals, local cuisines) can be tailored to embody culturally significant references (Goodchild 2007, 215–19).

UI Accessibility and Alternative Modalities

Strict adherence to accessibility guidelines WCAG 2.1 (Level AA) ensures the interface remains navigable for visually impaired or differently abled users, employing high-contrast colour schemes, large text, and voice commands (W3C WCAG 2.1 2018, Sections 1-2). These design choices are critical for inclusive digital tools in urban contexts

Proactive Outreach

Collaboration with grassroots organisations and civic groups helps mobilise diverse voices, like spanning ethnic minorities, older adults, or refugees, inviting them to map out and share their unique urban experiences. A combination of online and offline engagement (e.g., workshops, photovoice projects) can counter potential skew, ensuring that "quiet" or disenfranchised communities are not overlooked (Wang and Burris 1997, 381–84).

31.2.6.3. Data accessibility and transparency

While privacy constraints require caution in data handling, *Koinos* also thrives on the principle of transparency, ensuring that aggregated insights or city-level analytics remain accessible to participants, city officials, and researchers.

Open Data Interfaces

The platform can provide open data endpoints or API integrations that allow public institutions or vetted third parties (e.g., university research labs) to query aggregated, anonymised data sets (Goodchild 2007, 217–19). This fosters collaboration between developers, data journalists, and policy-makers seeking to cross-reference crowd-sourced data with official statistics (Healey 1998, 1536–40).

User-Friendly Visualisations

Alongside raw data availability, *Koinos* includes intuitive dashboards where participants can track evolving trends, like emerging hotspots for social activities or shifts in emotional sentiment across the city (Ma et al. 2021, 14–18). Clear visual cues, charts, and heat maps contextualise these patterns in ways that resonate with non- expert users (Tufte 2006, 9).

Transparent Methodologies

The app's interface should articulate how data is collected (e.g., credit system incentives, post validations) and processed (e.g., AI-driven sentiment analysis, endorsement weighting). Publishing short "metadata reports" enhances trust, clarifying any limitations in tagging completeness or potential sampling biases (Iachello and Hong 2007, 21–29). This transparency speaks to academic standards, ensuring the data's interpretive boundaries are well-understood (Nielsen 1993, 148– 50).

31.2.6.4. Ethical deployment and governance

Establishing an ethical governance framework is vital for *Koinos* to maintain its integrity and ensure sustained stakeholder trust (Healey 1998, 1531–40) including

platform updates, data usage, and community relations.

Multi-Stakeholder Advisory Board

As part of its governance structure, *Koinos* can form an advisory board comprising municipal officials, community leaders, academic experts, and user representatives (Brown and Kyttä 2014, 132–34). This diverse body can oversee significant policy changes (e.g., evolving credit systems, data-sharing protocols) and provide impartial oversight in sensitive cases like data breaches or community disputes (Wang and Burris 1997, 381–84).

Ethical Review Mechanisms

Drawing inspiration from institutional review boards (IRBs) in academic contexts, an internal panel could review new functionalities (like AI-based face recognition or advanced predictive analytics) for ethical implications (Nielsen 1993, 138–46). This process ensures that expansions of platform capabilities consistently respect user autonomy and privacy (Iachello and Hong 2007, 4–5, 55–65).

Codes of Conduct and Dispute Resolution

An articulated user code of conduct, shared upon registration, clarifies acceptable behaviours (e.g., refraining from hate speech and respecting others' privacy) and outlines steps for dispute resolution or reporting of violations (Nielsen 1993, 138–46). Swift moderation ensures that the overall tone remains constructive, preventing the platform from devolving into an unregulated space vulnerable to harassment or misinformation (Goodchild 2007, 217–19).

31.2.7. *Koinos*' tags: alternative deployment (tagging system)

Desirable Cities will promote the *Koinos*' Tagging Protocol, as a lightweight schema, e.g., JSON-LD (JavaScript Object Notation for Linked Data), and SDK (Software Development Kit). Thus, any platform can apply this system to capture the same *desirable urban experience*. On API (Application Programming Interface) friendly platforms such

as Instagram, Facebook, Pinterest, and WeChat, turnkey connectors map *Koinos* tags to native primitives (hashtags, captions, geo-pins, alt text) and sync them back to *Koinos*. Where APIs are limited, a "Share to *Koinos*" flow and a privacy-first browser extension let people tag posts at publish time; structured tags are stored in *Koinos* and linked to the original post via deep links and metadata. This approach keeps posts native while giving cities, communities, and researchers a common, portable tagging language—spreading the theory in practice across any app and city.

FRENCH SUMMARY OF PART EIGHT

VILLES DÉSIRABLES, PERSPECTIVES

32. SYNTHÈSE DE LA MÉTHODE, DU CADRE ET DE L'OBJECTIF DE *VILLES DÉSIRABLES*

Conclusions de l'approche *holistique* et *interdisciplinaire* de *Villes Désirables*

La condition préalable fondamentale pour une ville désirable est l'abandon des paradigmes réductionnistes. Les villes doivent être comprises et gérées comme des systèmes socio-écologiques dynamiques et interconnectés. Cela nécessite un changement conceptuel de l'interdisciplinarité vers un cadre holistique plus avancé et éthiquement exigeant.

Le développement urbain historique a souvent privilégié la matérialité, générant des coûts écologiques et sociaux. À travers les phases de Fondation, d'Expansion, d'Interconnexion, de Révolution et d'Innovation, l'équilibre initial entre les dimensions naturelle, culturelle et construite s'est progressivement perdu, les aspects culturels et construits prenant le pas.

Villes Désirables propose une approche holistique qui intègre la durabilité écologique, l'engagement communautaire inclusif et une conception adaptative centrée sur l'utilisateur. Son architecture intellectuelle s'inspire du *pragmaticisme* de Peirce (1933,1960), appliquant la *priméité*, la *secondéité* et la *tiercéité* aux environnements naturel, culturel et construit. Cette structure triadique souligne qu'un environnement construit désirable dépend d'un environnement culturel sain, et que tous deux présupposent un fondement naturel équilibré.

Le cadre intègre le concept d'*Imaginaires phénoménologiques du désir* (*PIDs*), reliant les dimensions naturelle, culturelle et construite aux réponses psychologiques qu'elles évoquent chez les acteurs. De cette manière, l'urbanisme holistique acquiert un fondement humain et écologique rigoureux.

Les limites des mouvements urbains isolés, qu'ils se concentrent étroitement sur la durabilité ou la biotechnologie, démontrent la nécessité de l'intégration. *Villes Désirables* synthétise les contributions de la philosophie, de l'écologie, de la biologie, de la sociologie, de la psychologie, de la sémiotique et de l'économie, garantissant que la croissance urbaine bénéficie de manière équilibrée aux écosystèmes, aux personnes et aux infrastructures.

L'accent mis par *Villes Désirables* sur les attentes en matière d'expériences urbaines désirables

Au cœur de sa démarche, *Villes Désirables* cherche à comprendre et à répondre aux attentes des individus en matière d'expériences urbaines désirables. Elle va au-delà des mesures quantitatives, telles que les opportunités économiques ou l'efficacité, pour prendre en compte les dimensions subjectives et intersubjectives de la perception et de l'interaction. La désirabilité urbaine émerge à travers les entrées sensorielles, le symbolisme culturel et les imaginaires collectifs.

S'inspirant de Lacan (2006), elle reconnaît que le *Réel*, le *symbolique* et l'*imaginaire* façonnent le « vide » ou la cause du désir (« *objet petit a* ») que les individus poursuivent dans la vie urbaine. La notion de désir mimétique de Girard (2000) met en évidence la nature imitative de ces aspirations, coproduites par l'observation et l'interprétation.

Ici, les *PIDs* servent de concept unificateur : des imageries qui relient les émotions, les actions et les réflexions des acteurs aux composantes naturelles, culturelles et construites de la ville. Soutenu par la sémiotique de Peirce, ce cadre explique comment le symbolisme urbain génère des réponses psychologiques.

Mettre l'accent sur les attentes signifie qu'un développement urbain réussi doit privilégier le bien-être humain au même titre que la viabilité écologique et économique. Cela requiert une attention à l'interaction entre les conditions objectives et les désirs subjectifs, garantissant que la conception reflète les aspirations vécues des diverses communautés

L'accent mis par *Villes Désirables* sur les outils visuels didactiques

Villes Désirables souligne le rôle des outils visuels didactiques pour combler la communication entre les *créateurs de villes* et les *utilisateurs de la ville*, et pour articuler les attentes en matière de désirabilité urbaine. Les méthodes basées sur le texte échouent souvent à capturer la nature complexe et intangible de la perception et du désir urbains.

Les essais empiriques à Shanghai — *Shanghai-map*, *Question-naire*, *Picture- naire*, *Photo-naire*, *Graphic-naire* — ont montré comment les stimuli visuels permettaient aux participants d'exprimer leurs émotions et leurs réflexions plus efficacement que la description verbale. La progression vers des illustrations simplifiées a réduit le « bruit visuel » et clarifié la conceptualisation. Ces aperçus ont façonné des instruments sur mesure tels que la *Ca(p)mera*, la *Following>Camera*, la *FloatingvCamera*, les *Emotion-naire Cards*, le *Structure-naire Canvas* et le *Terms-naire Tray*.

Ces outils servent plusieurs objectifs :

- **La prise de conscience et la réflexion :** des plateformes qui encouragent les participants à visualiser et à structurer leurs aspirations.
- **La communication :** un langage visuel partagé pour des idées complexes et des sentiments intangibles.
- **La capture de données nuancées :** des caméras et des journaux visuels qui documentent des comportements subtils et non verbaux.
- **La jonction entre la théorie et la pratique :** traduire la sémiotique de Peirce ou les graphes du désir de Lacan en instruments tangibles et accessibles permet de jeter un pont entre la théorie et la pratique.

En fin de compte, l'objectif est de donner à tous les acteurs les moyens de participer activement à la construction de leur environnement. Les outils visuels fournissent des moyens accessibles et engageants d'identifier et de communiquer les attentes, favorisant ainsi des futurs urbains inclusifs, réactifs et désirables où les dimensions naturelle, culturelle et construite sont harmonieusement intégrées.

PART EIGHT.

DESIRABLE CITIES' CONCLUSION

33. *DESIRABLE CITIES'* THEORETICAL AND PRACTICAL SYNTHESIS

All the protocols provided in previous sections are the institutional scaffolding for the concluding synthesis of this *Part Eight*, where *Desirable Cities* consolidates its theoretical, empirical and digital contributions. *Desirable Cities* demonstrates that a Peirce, *holistic* paradigm, an auditable multimodal method, and a participatory digital pathway can be integrated to align *city makers'* strategies and *city users'* tactics around *Cities' PIDs.*

33.1. *Desirable Cities'* holistic and interdisciplinary approach conclusions

The foundational prerequisite for a *desirable* city is a decisive departure from reductionist approaches in urban paradigms. The evidence presented throughout this thesis supports the view that cities must be understood and managed as complex, dynamic, and interconnected socio-ecological systems. This understanding necessitates a conceptual evolution from a necessary but insufficient *interdisciplinary* approach to the more advanced and ethically demanding framework of a *holistic* approach to the urban environment.

Traditional city development has historically focused on materiality, often neglecting ecological balance and human well-being. This fragmented approach is evident across historical urban phases, where economic growth and technological advancements frequently came at the expense of both. The problematic approach of historical urban development, as demonstrated in the *Urban Foundation*, *Urban Expansion*, *Urban Interconnection*, *Urban Revolution*, and *Urban Innovation* phases, shows an increasing imbalance in priorities. While early urban foundations showed a balance across *natural*, *cultural*, and *constructural* dimensions, later periods increasingly prioritised *cultural* and *constructural* elements, often with negative impacts on the *natural* environment and social equality.

Desirable Cities proposes a *holistic* and *interdisciplinary* approach as a suitable response to this gap. This approach aims to unite ecological sustainability (*natural*), inclusive community engagement (*cultural*), and adaptive, user-centred design (*constructural*). It ensures that urban growth benefits ecosystems, people, and infrastructure in an equal, balanced measure. This rebalancing is crucial for addressing contemporary urban challenges, resulting from past imbalances.

The paradigm of urban *Pragmaticism*, adapted from Peirce's philosophical system, provides the intellectual architecture for this *holistic* framework. Peirce's categories of "*firstness*," "*secondness*," and "*thirdness*" are applied to represent, respectively, the *natural*, *cultural*, and *constructural* environment. This triadic structure reinforces a core principle: a desirable *constructural* environment cannot exist without a healthy *cultural* environment, and neither can exist without a balanced and sustainable *natural* environment. This means that cities developed *holistically* must harmoniously integrate the ecological stability of the Earth and the overall social well- being with thriving urban spaces.

Furthermore, this *holistic* and *interdisciplinary* approach emphasises the importance of understanding people's perceptions, interpretations, and aspirations, captured through the concept of *cities' Phenomenological Imageries of Desire* (*Cities' PIDs*). *Cities' PIDs* serve as the analytical unit that connects the city's *natural*, *cultural*, and *constructural* components to the psychological responses (*emotions*, *actions*, and *reflections*) that they trigger in city stakeholders. This framework provides a rigorous basis for a more human and ecologically responsible approach to urbanism.

The limitations of isolated alternative urban movements, such as sustainability movements overlooking social aspects or biotechnology neglecting inclusivity, underscore the necessity of this comprehensive approach. *Desirable Cities* combines contributions from diverse fields, including philosophy, ecology, geography, biology, sociology, psychology, semiotics, and economics, to create a genuinely cohesive and *holistic* city development framework. This ensures that urban growth benefits ecosystems, people, and infrastructure in an equal, balanced measure.

Therefore, *Desirable Cities* theoretical contribution is a rigorous articulation of *Cities' PIDs* linking *Firstness* (*natural*), *Secondness* (*cultural*) and *Thirdness* (*constructural*) in ontological and phenomenological terms, showing that the *constructural* cannot be *desirable* unless sustained by *cultural* coherence and *ecological* viability.

33.2. *Desirable Cities'* focus on expectations for desirable urban experiences

The core of Desirable Cities lies in its unwavering focus on understanding and addressing people's expectations for desirable urban experiences. This focus moves beyond traditional urban planning metrics, often prioritising quantifiable factors like economic opportunities or infrastructure efficiency alone. Instead, Desirable Cities

argues that the actual desirability of a city is equally, if not more, a matter of perception, interpretation, and interaction. It delves into urban environments' subjective and intersubjective experiences, recognising that sensory inputs, cultural symbolism, and individual and collective imaginaries shape these constantly emerging desires.

Desirable Cities identifies desire as the fundamental driving force behind people's psychological engagement with their environment. Drawing from Lacan's framework, it acknowledges that urban experiences are influenced by the interplay of the "*Real*" (everything that exists), the "*symbolic*" (cultural pre-determinations), and the "*imaginary*" (individual ideal positioning). These elements collectively contribute to a "*void*" or "*cause for desire*" (Lacan's "*little object a*") that people seek to fulfil through urban experiences. Girard's "*mimetic desire*" concept further highlights how these aspirations are often imitative, influenced by observing others' experiences and perceived social value. This means a city's desirability is not static but dynamically co- produced through the interactions and interpretations of *city makers* and *city users*.

The unifying concept introduced to capture these multifaceted dimensions is *Cities' PIDs*. *Cities' PIDs* serve as the analytical unit that links city stakeholders' responses (*emotions*, *actions*, and *reflections*) with their environment's *natural*, *cultural*, and *constructural* components. They represent the sensory and mental imageries through which urban environments are interpreted and ascribed meaning. This framework, informed by Peirce's semiotic analysis, allows for the systematic investigation of how urban symbolism and imageries in everyday life trigger these psychological responses. By focusing on *Cities' PIDs*, *Desirable Cities* aims to uncover the authentic, often unconscious, desires that make an urban experience desirable, moving beyond superficial aesthetics or purely functional considerations.

Ultimately, emphasising expectations for desirable urban experiences means that successful city development must prioritise human well-being and satisfaction alongside ecological and economic viability. It necessitates understanding the complex interplay between objective urban conditions and the subjective ways city stakeholders perceive and desire these conditions. This focus ensures that urban growth and design reflect social and cultural life, fostering environments that genuinely fulfil diverse urban communities' nuanced needs and aspirations.

33.3. *Desirable Cities'* emphasis on visual didactic tools

Desirable Cities places a significant emphasis on developing and applying visual didactic tools as a crucial means to bridge the communication gap between *city makers* and *city users* and enhance their ability to identify and articulate expectations for desirable urban experiences. This emphasis stems from recognising that traditional text-based or purely verbal methods often fail to capture urban perception and desire's complex, frequently intangible, dimensions.

The preliminary empirical trials conducted in Shanghai, including the *Picture- naire*, *Photo-naire*, and *Graphic-naire*, consistently revealed the power of visual elements in eliciting deeper insights from participants. These experiments demonstrated that visual tools could effectively prompt participants to express their *emotions*, *actions*, and *reflections* in response to urban environments, even when verbal descriptions proved challenging. For instance, by shifting from photographs to simplified illustrations, the *Graphic-naire* reduced visual "noise" and allowed participants to focus more clearly on categorising urban features and expressing their conceptualisations of city settings. This iterative refinement process informed the design of the bespoke tools used in the empirical testing: the *Ca(p)mera*, *Following>Camera*, *FloatingvCamera*, *Emotion-naire Cards*, *Structure-naire Canvas*, and *Terms-naire Tray*.

These visual tools are designed to serve multiple didactic purposes:

- Enhancing awareness and reflection: Tools like the *Emotion-naire Cards* and *Structure-naire Canvas* provide structured yet flexible platforms for participants to visualise and organise their thoughts, aiding in consciously identifying their aspirations and values related to urban experiences. The process of physically arranging cards or populating a canvas encourages a deeper, more reflective engagement with urban components.
- Facilitating communication: By providing a common visual language, these tools enable participants to articulate complex ideas and intangible feelings that might otherwise remain unexpressed. The visual nature of the tools fosters shared understanding between diverse stakeholders, allowing for more transparent communication of expectations and feedback.
- Capturing nuanced data: Cameras, from the unobtrusive *Ca(p)mera* capturing a participant's gaze to the *FloatingvCamera* documenting interactions with other tools, provide rich, multi-modal data that capture subtle behaviours, non-verbal

cues, and real-time responses that traditional interviews might miss. This visual evidence offers deeper insights into the city's phenomenological experience.

- Bridging theoretical concepts with practical application: The design of the tools is directly informed by the theoretical framework, translating abstract concepts like Peirce's semiotic analysis or Lacan's graphs of desire into tangible, interactive instruments. This practical application allows researchers and city stakeholders to engage with complex theories in a user-friendly manner.

The ultimate aim of emphasising visual didactic tools is to empower all city stakeholders to actively participate in shaping their urban environments by providing accessible and engaging ways to identify and communicate their expectations for desirable urban experiences, thereby enhancing their satisfaction. These tools support a more inclusive, responsive, and ultimately, more *desirable* urban future that *holistically* and *interdisciplinarily* integrates the *environment's natural, cultural, and constructural dimensions*.

Methodologically, *Desirable Cities* evidences that eliciting and comparing *Cities' PIDs* through didactic visual tools increases thematic richness, *holistic* integration and communicative efficacy across roles. *Koinos* operationalises this research at scale by translating qualitative *Cities' PIDs* into city-wide, ethically governed, participatory insights, preserving nuance while enabling action.

PART NINE.

DESIRABLE CITIES' RESOURCES

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John Villar

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DESIRABLE CITIES

Résumé

Villes Désirables propose le « Pragmaticisme » comme un paradigme de recherche urbaine qui articule : 1) la théorie sémiotique de Peirce, y compris la perception environnementale des gens (symbolisme), leurs interprétations consécutives (imageries) et les réponses psychologiques qui en découlent (émotions, actions et réflexions) ; 2) des catégories environnementales de Magnaghi (naturelles, culturelles et construites) ; 3) des théories de la perception de Maturana, Silva et Debord (dérive urbaine, imaginaires et spectacles) ; 4) des théories du désir de Lacan et Girard (aspirations mimétiques) ; 5) le modèle de communication de Jakobson; et 6) le « Business Model Canvas » . La recherche se demande : si des outils visuels didactiques peuvent aider les créateurs de villes (décideurs politiques, urbanistes, promoteurs immobiliers, architectes, designers, ingénieurs et constructeurs) et les utilisateurs de la ville (résidents, voyageurs et visiteurs locaux et étrangers) à identifier, communiquer et satisfaire de manière holistique leurs attentes en matière d'expériences urbaines souhaitables qui devraient inclure la stabilité écologique de la Terre et le bien-être social. Un programme empirique de quatre ans, a été testé dans plus de trente (30) lieux populaires à Shanghai, impliquant plus de quatre-vingt-dix (90) participants. Par rapport aux entretiens standard, les outils (caméras, cartes et canevas) et protocoles (marche et discussion) développés ont considérablement amélioré la richesse thématique et la compréhension mutuelle entre les groupes de parties prenantes, et leurs idées ont guidé la conception de l'application participative : Koinos. Villes Désirables fournit : A) un cadre interdisciplinaire validé; B) des méthodes testées sur le terrain pour révéler de ce que les villes désirables dénomment « Imaginaires phénoménologiques du désir de ville »; et C) une voie numérique évolutive vers des applications quantitatives des études urbaines et des projets de développement urbain du futur, en vue de créer des expériences urbaines désirables, ou autrement dit des villes désirables.

Mots clés : Villes, désir, perception, désir spatial, désir urbain, perception spatiale, perception urbaine, communication urbaine, émotions spatiales, psychographie, villes désirables, villes agréables, bien-être urbain, anthropologie urbaine, image de marque de la ville, économie urbaine, canevas de modèle économique urbain.

Abstract

Desirable Cities proposes Pragmaticism as an urban research paradigm that articulates: 1) Peirce's semiotic theory, including people's environmental perception (symbols), their interpretations (imageries) and the consequential psychological responses (emotions, actions and reflections); 2) Magnaghi's environmental categories (natural, cultural, and constructural); 3) Maturana's, Silva's and Debord's theories of perceptions (urban drifting, imaginaries, and spectacles); 4) Lacan's and Girard's theories of desire (mimetic aspirations); 5) Jakobson's model of communications; and 6) the Business Model Canvas. Desirable Cities asks whether didactical visual tools can help city makers (policymakers, urban planners, real estate developers, designers, and builders) and city users (residents, commuters, and local and foreign visitors) to identify, communicate and holistically satisfy their expectations for desirable urban experiences, which should include Earth's ecological stability, social well-being, and thriving urban spaces. A four-year empirical programme tested these tools in more than thirty (30) popular locations in Shanghai, involving more than ninety (90) participants. Compared with standard interviews, the tools significantly improved thematic richness and mutual understanding between different city stakeholder groups. These insights led to the design of the participatory app: Koinos. Desirable Cities delivers: A) a validated interdisciplinary theoretical framework; B) field-tested methods and tools for revealing Cities' Phenomenological Imageries of Desire; and C) a scalable digital pathway toward quantitative applications of future urban studies and city development, aiming for desirable urban experiences, in short: desirable cities.

Keywords : Cities, desire, perception, space desire, urban desire, space perception, urban perception, urban communication, spatial emotions, psychographics, desirable cities, pleasurable cities, urban well-being, urban anthropology, city branding, urban economics, urban business model canvas.