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A Systemic Approach to Proximity Through Design for Relations

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Proximity has lately become a keyword to approach territorial enhancement goals. The most common representation of proximity at the urban level is the idea of the 15-minute city, which has gained massive attention in political, economic, social, and academic discourses. However, this idea is not new in the worldwide panorama and, during the COVID-19 pandemic, has gained renovate attention because of contextual extraordinaire conditions. Furthermore, under so-called normal circumstances, this concept of proximity has certain evident societal constraints. In our paper, we want to propose and discuss a wider systemic approach and consequent definitions of proximity in connection with the different actors that compose and drive our societies. In the design for relations, we will identify a systemic and valuable strategy to overcome the previously discussed limits.

KEYWORDS: systemic design, systemic proximity, design for relations, quintuple helix.

RSD TOPIC(S): Methods & Methodology, Society & Culture, Mapping & Modelling

Introduction

Cities have always been objects of change, exchange nodes, and innovation centres. Cities are the points of intersection of different cultures, needs, and histories that inevitably meet and collide due to internal and external factors. Cities have become debates of change increasingly from the grassroots, from single individuals, groups and organisations who are starting to be considered as possible agents for its solution to be actively involved (Manzini, 2015).

Now more than ever, after two years of emergency due to the COVID-19 pandemic, cities are under the crosshairs of study and experimentation, both from the side of academia and from the side of practitioners. The outbreak and rapid spread of COVID-19 between the end of 2019 and the beginning of 2020 has brought a new threat with severely critical consequences. But from a different angle, it has also been demonstrated, in particular, how social resilience and urban regeneration create a new concept of sociality and proximity (Ferri et al., 2021). Societies have actually begun to experience the collision of various and opposing trends versus the dominant macro trend of “neoliberal globalization” (Harvey, 2005), which has contributed to individualisation, virtualisation, and delocalisation over the past two decades and thus already during the pre-pandemic scenario (Beck, 2000; Wellman, 2002).

In this paper, we will provide a theoretical perspective and overview of the ideas and principles of the 15-minute city and any other projects and programs of a similar nature. Our objective is to provide an intersectional theoretical framework for the study of proximity, identifying specific areas (variables) to define specific viewpoints to gather, analyse, and interpret data in applied pieces of research. To do that, a narrative literature review (Baumeister & Leary, 1997) was developed and summarised, paying specific attention to contributions from different fields: design, economic geography, information technology, and urban studies. The reflection gives a critical perspective on the 15-minute city, stressing its promise and the severe problems that have arisen, particularly in recent years. Therefore, with this study, we aimed to provide a distinctive viewpoint on these growing programs that tackle the complexity of the city through a precise, systematic, and strategic view. For this reason, we identified three main systemic approaches to proximity based on their economic, accessibility and

attractiveness, living and relational dimensions. In this initial attempt to construct this revised framework, which incorporates and considers the different theories carried out concerning urban proximity and beyond, the systemic aspect of proximity comes into play. The Quintuple Helix is then referenced and applied in the second-level analysis to add even more rigour to the desired systemic proximity. The paper concludes with an open research request to highlight the contentious topic of design for relations, which has received little attention but might be a promising opportunity for research experimentation and study if integrated with systemic design and vice versa.

Literature review

A thorough review of critically analysed literature was done to draft this paper, allowing gaps to emerge in the definition and research actions related to design concepts for relationships and proximities. This was achieved through the structured intersection of different disciplines and academic fields: design, economic geography, information technology, and urban studies. This intersection was also made possible by the work of various research groups and researchers. In fact, the paper gradually presents general concepts of the 15-minute city, which inevitably leads to reflections and criticism on the much-debated images of proximity. We intend to provide a new perspective that sees a systemic model of proximity that does not overlap the concepts already explored by various authors and scholars but brings together and then systemises multiple layers of concepts, practical actions, networks, and human and non-human relations.

The 15-minute city

A contemporary idea coming from the past

The last few years have seen the realisation and the spread of initiatives and projects to support that social dimension and sustainability that hardly finds its rightful place by sharing a call for 'back-to-basics', a right to the city, and a better quality of life, accessible, fair, and inclusive. In each city around the world, a loud call for humanity is being reawakened, which the urban activist Jane Jacobs longed for in American cities half a century ago (1961). The pandemic renewed attention to both old and new interventions worldwide that all share the same goal of beckoning the quality of life and

urban regeneration. Initiatives, slogans, groups, research, and projects such as the city as an ecosystem by Salvador Rueda in 1987 (Torti & Santasusagna, 2018), the transition towns by Hopkins (2005), Social Streets debuted in via Fondazza in Bologna (Italy) in September 2013 (Pasqualini, 2018), the *Walkable City* by Jeff Speck (2013), the 15-minute city by Carlos Moreno (2016), the open city by Richard Sennett (2018), the *Soft City* by Jan Gehl (2019), and the city of proximities (Manzini, 2021).

The 15-minute city has been the most popular approach adopted as a strategy, especially by local policymakers (but also by other stakeholders) because of the COVID-19 pandemic. The 15-minute city is both a vision and a slogan that puts citizens as humans at the centre and where all their basic needs—living, working, supplying, caring, learning, and enjoying—are fulfilled within a 15-minute walk or bike ride. This is how many cities are already testing transitional social innovations. The slogan, which Carlos Moreno first pushed years ago, has recently been used as campaign material by the mayors of Paris, Anna Hidalgo, and Barcelona, Ada Colau. The COVID-19 tragedy has demonstrated the possibility of new kinds of hybridisation and synergies that concern locations, communities, and resources via several challenges.

The 15-minute city idea is not new and, for example, can be read as an evolution of the concept of neighbourhood units, which was proposed in the 1920s and 1930s (Pozoukidou & Chatziyiannaki, 2021; Kissfazekas, 2022). In particular, the urban planner Clarence Perry (1929) proposed a “well-ordered hierarchical system of urban amenities starting from the neighborhood unit that formed larger subdivisions” (Pozoukidou & Chatziyiannaki, 2021: 1) for the urban development of New York. Perry's model was already criticised in the 40s and 60s because it risked promoting segregation. Moreover, the whole idea of rigorously designing a neighbourhood unit - and, therefore, a community - disregarded the previously existing elements, functions, and structures (Bauer, 1945; Isaac, 1948; Pozoukidou & Chatziyiannaki, 2021). The same critics directed towards the neighbourhood unit concept might be very relevant to evaluating the 15-minute city idea. Indeed, these units' inner spatial and social structures might be stronger than their connections with neighbouring quarters and the city as a whole, creating more substantial separations between different populations (ghettos), reproducing or even aggravating social inequalities (Kissfazekas, 2022).

The 15-minute city has generated much debate since it has many benefits and downsides (O'Sullivan & Bliss, 2020). In fact, caution must be exercised while researching and testing out strategies for achieving this kind of vision, precisely to prevent supporting so-called gated communities.

Another essential factor to consider while designing the 15-minute city or the city of proximity is digitalisation, a process already very crucial in defining the so-called Smart Cities (Moreno et al., 2021; Allam et al., 2022). Thanks to digitisation, transformative social innovations are becoming a widespread practice because of the combination of two main factors: on the one hand, the diffusion of the information and communication technologies that enable and connect people; on the other hand, the nature of problems to be dealt with on a different scale compels an increasing number of people to respond actively. In the last decades, individuals saw the rapid development of technologies – social media, analytics, and cloud – that defined the so-called everyone-to-everyone economy, which is characterised by hyper-connectedness and active collaboration of consumers and organisations across the gamut of value chain activities: co-design, co-creation, co-production, co-marketing, co-distribution and co-funding (Berman & Marshall, 2014). Therefore, digitisation can improve citizens' quality of life by increasing social inclusion and addressing the climate crisis (Moreno et al., 2021). However, at the same time, technological solutions can lead to and worsen economic and social disparities (Hollands, 2008).

In this context, design culture has changed from being a method for creating products to one that aids in resolving complex social issues (van der Bijl-Brouwer & Malcolm, 2020). These principles are the cornerstone of systemic design, which blends systems thinking with creative problem-solving techniques. It is possible to achieve alternative outcomes (Battistoni & Barbero, 2018) and good transitions by approaching the area from a systemic lens, from a horizontal viewpoint, and by refocusing on the interactions that may be formed among social actors and individuals.

The systemic nature of proximity

The word “proximity” means the quality or state of being proximate, “closeness,” and it derives from the Latin words *proximitās*, *proximitāt-*, from *proximus*. A sense of human closeness that involves trust and empathy is referred to as “being near” in ordinary language (Manzini, 2021; Marocchi, 2017).

The topic of proximity can be discussed from several perspectives. Many academic fields have embraced and defined the frequently used word, including social psychology, sociology, economic geography, organisational studies, and many others. Each of them has a unique interpretation and indicates various traits. Here, we will present three primary systemic approaches to proximity, which we can classify (in chronological order) as follows:

- Economic proximity
- Accessible and attractive proximity
- Living and relational proximity

This paper addresses proximity systemically and is understood as a set of different factors, tangible and intangible touchpoints, and actors connected by various relations. However, before demonstrating the systemic nature of this concept of proximity, it is significant to mention several aspects of proximity that have previously been covered by several academic (and non-academic) discourses.

Economic proximity

Over twenty years ago, Torre and Gilly (2000) provided a broader analytical definition of proximity, looking at it as an umbrella concept, including cognitive and physical aspects. The two scholars criticised how literature frequently emphasises attention on geographic proximity while underlining that it doesn't always imply the co-location of actors. Rallet and Torre (2000) stressed that proximity has a variety of factors that must be taken into consideration, a variety of models that do not just relate to the local dimension. A few years later, Ron Boschma (2005) defined five aspects of proximity in the evolutionary economic geography (EEG) field, which is particularly valuable in our discussion. Due to the Boschma field of study, proximity has been analysed as a feature

crucial in influencing the economic performances of specific territories and business sectors, but, as we will discuss further, it can also be applied for studying social cohesion features and performances of cities and neighbourhoods. As said, the most common way to define proximity is geographical. Indeed, according to Boschma, the physical distance between (business) organisations can be interpreted as their actual separation or the amount of time required to get between them; this view is similar to the one used by Marshall in 1920 to define the so-called Industrial Atmosphere. Going on with the other definition of proximity provided by Boschma, Social proximity describes the connections between individuals and is defined by trust between the parties, which may be based on kinship, friendships, long-term relationships, or previous encounters. Cognitive proximity refers to how one perceives, interprets, comprehends, and evaluates the environment. Organisational proximity shows what individuals have in common in terms of structures and processes both inside them and in connection to higher-level organisations; it is a kind of proximity required to allow for communication, the sharing of experiences, and the transfer of information. Finally, Institutional proximity is the relationship between the informal set of values and behavioural patterns that characterise the organisations under consideration and the legal and administrative requirements that are currently in effect in a specific area.

Accessible and attractive proximity

As previously highlighted, walkability has become a crucial factor in defining and being defined by different proximity dimensions; in particular, according to Speck (2013), a walk must satisfy four main conditions: it must be useful, safe, comfortable, and interesting. This definition highlights both hard and soft conditions that a neighbourhood must meet to be walkable. Starting from Speck (2013), Gorrini and Bandini (2018) identified a set of indicators to evaluate walkability.

- **Usefulness:** guarantee numerous and diverse public services for the elderly within a walkable distance from their residence;
- **Comfort:** accommodate the comfort of the elderly while walking;
- **Safety:** guarantee the security (also the perceived one) of elderly pedestrians while walking and crossing;

- **Attractiveness:** have a polycentric structure, with several and distinctive areas of attraction for the elderly inhabitants;
- **Legibility:** enable the elderly to locate themselves easily and navigate through the city.

Pei et al. (2019) added population to these indicators to obtain qualitative information on the types of actors present in those areas, their activities, and behaviours.

Living and relational proximity

More recently, Manzini (2021) identified several typologies of proximity closely related to citizens (and city users) more than companies and workers, as Boschma mentioned. Functional proximity refers to characteristics that make it possible to live biologically, to the services provided by the location, and to artefacts (buildings, products, services, communication systems). Different types of proximity are characterised by the kind, diversity, and quantity of these artefacts. Relational proximity determines whether and to what extent a particular proximity system is favourable to the creation, expansion, and persistence of novel types of community. Compared to functional ones, these attributes are less tangible. Specialised proximity, beyond the basic necessities for living, only gives one option: a single service or one kind of activity. People must move from one location to another, from one specialised proximity to another. Diversified proximity provides a wide range of options, making it possible to access (nearly) everything a person needs to live. Moreover, Manzini refers to Livable proximity with several interrelated properties. The Livable proximity is diversified, relational, and hybrid. It is diversified because it provides various options (for services, work, social, and cultural activities); relational because it is denoted by a dynamic entwining of functional and relational properties; and hybrid because it is supported by a digital infrastructure that links local activities to global networks.

As described by Manzini in his most recent work, the concept of hybrid proximity demands special consideration. It refers to new types of diversified physical and digital proximity; it may be thought of as a new kind of relational hybrid proximity where digital interactions supplement opportunities for physical encounters. It is a kind of proximity that technology has made possible but cannot maintain on its own.

Systemic proximity model

As shown in the previous paragraphs, the most common urban representation of proximity is the concept of the 15-minute city, which has received widespread attention in political, economic, social, and academic discourses, particularly during the COVID-19 pandemic, by activating and motivating virtuous cases and practices. However, it has also developed and signified certain evident and intricate social constraints within the return to normal conditions.

The literature assessment and the crossover of previous, ongoing, and upcoming research allowed us to identify several crucial factors helpful to develop a distinctive viewpoint on the systemic nature of proximity shaping contemporary urban contexts.

As a result, an intersectional theoretical framework for the study of proximity was developed, which includes two tentative models, the former based on the three main approaches to proximity and the latter updated with the inclusion of the quintuple helix model.

Systemic proximity, first draft

Proximity has been studied in several fields as a peculiar and valuable attribute for both the economy and society at large. Starting from the discussion on the 15-minute city model, we selected three main approaches to proximity: the first (Boschma, 2005), mainly related to the economy; the second (Bandini and Gorrini, 2018; Pei, 2019), which focused on walkability, looked specifically at the accessibility and attractiveness of urban areas; the third (Manzini, 2021), mainly focused on living communities and their relations and connections with other individuals and communities and with physical spaces. This last approach already has a more comprehensive systemic view of the concept of proximity since it results from previous studies and research adopting a broader definition of it.

From the description previously provided, we tried to identify commonalities between the different categories, highlighting the overlapping areas of action and impact.

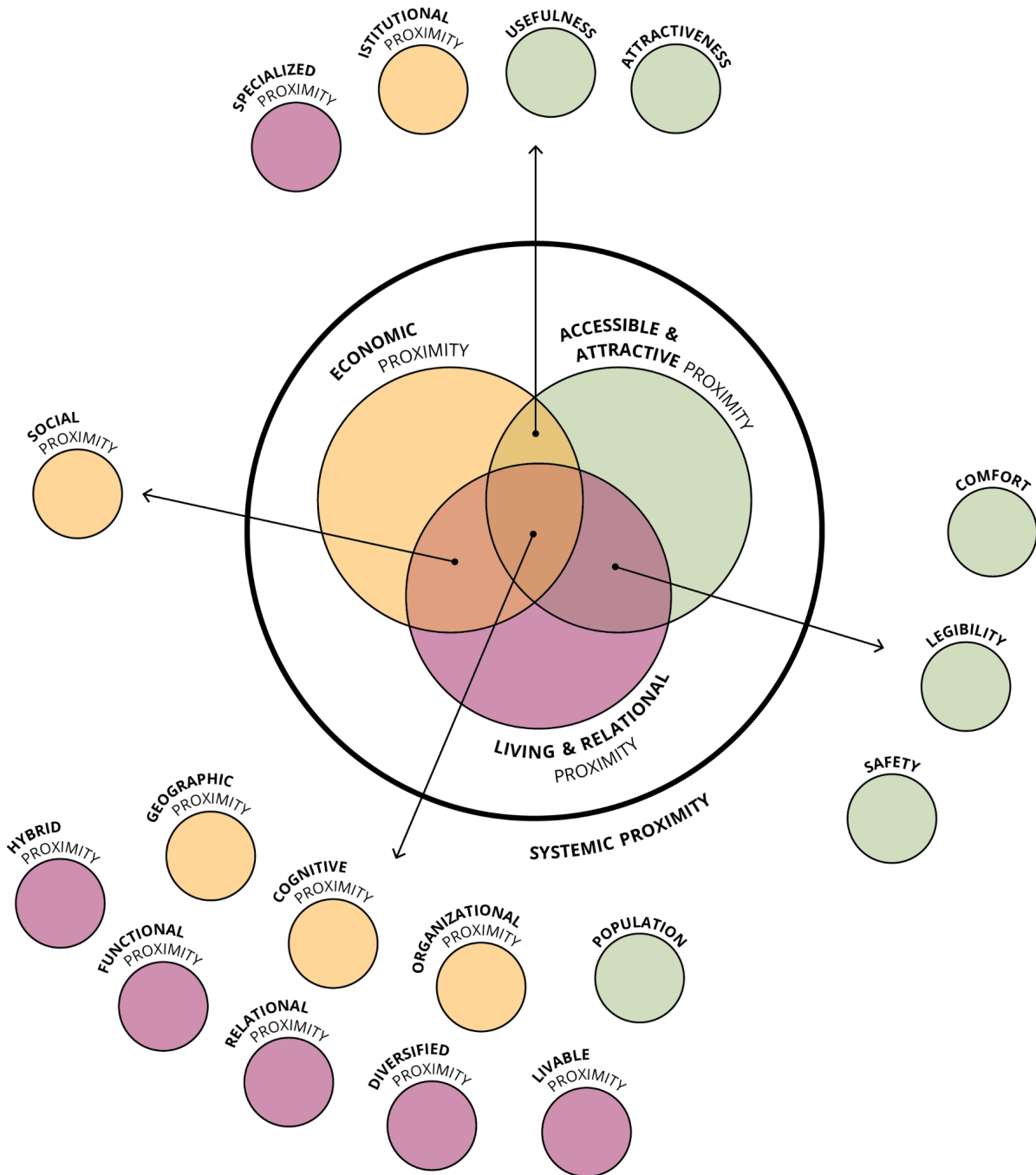


Figure 1. Systemic proximity model, first draft.

As can be seen in the figure above, no category applies only to one area of proximity.

- In the overlapping area between Economic and Living & Relational Proximities, we located the Social Proximity, which defines several typologies of strong and weak connections between individuals (in the original model, also firms).
- In the overlapping area between Living & Relational and Accessible & Attractive Proximities, we located Safety, Legibility and Comfort walkability criteria because, thanks to infrastructural interventions and improvements to streets and public spaces conditions, these can facilitate the creation of encounters and active social life.
- In the overlapping area between Accessible & Attractive and Economic Proximities, we located Institutional Proximity, Specialized Proximity, Usefulness and Attractiveness walkability indicators. This is because they refer to regulations and common practices that interest cities' economic and urban public spaces, but also the recognition (reputation) of a neighbourhood to be focused on specific services and attractions (permanent, recurrent, or sporadic).
- At the centre of the diagram, where Economic, Living & Relational, and Accessible & Attractive Proximities overlap, we located the majority of categories. Indeed, almost all the categories identified by Manzini (2021) are located here because they have already been thought of as multi-composed, and we believe that the definition provided above is already clear to understand them and their specific location. As Geographical Proximity is concerned, being the most basic one can be applied to all the areas of interest. Cognitive Proximity and Organisational Proximity have much to do with specified cultures resulting from different stakeholders' interactions, which happen for various reasons and which (as we will discuss later) can also be facilitated by the built environment and how soft and hard (infra)structures are organised. The population walkability factor is also at the centre of the diagram because the presence and relations of people are very diverse in terms of composition, scope, activities, time of permanence, etc. (Martinotti, 1996).

Systemic proximity, second draft

In the previous pages, we provided a first draft of what definitions and elements systemic proximity should be composed of. However, a very specific net upon which systemic proximity is activated is the relational one. We use the quintuple helix (QH) model to define these relationships. This model is the last version of previous works of inquiry for describing and visualising innovation and economic development in many countries or regions (Galvão, 2017; Carayannis and Campbell, 2009; McAdam et al., 2016; EC, 2012; MacGregor et al., 2010). The past two decades have seen the evolution of the quintuple helix from the triple and quadruple, created by Etzkowitz and Leydesdorff (1995) to explain the relationships between university, government, and industry aimed at territorial enhancement. The three models provide a framework theory that gradually describes interactions between academia, industry, government, civil society and environment based on knowledge and innovation economics theories. Each sector is represented by a helix, where the overlaps reveal interactions among the sectors (Carayannis & Campbell, 2012). The QH model helps us schematise the different groups of stakeholders whose relations are placed in the “Environment”.

The QH model is very relevant if used to trace and understand relations that might happen and impact the urban level. To properly use and understand this model, we can refer to Lefebvre, who, in the 1970s, in his book *The Urban Revolution* (2003), differentiates between three main interconnected levels which define a society: a global level (G), a mixed level (M), and a private level (P). The intermediate level (M) corresponds to the urban level. Each individual belongs to different stakeholder groups, which alternatively operate at the three levels previously mentioned. In some cases (where there is no conflict of interest), a person acts as the sum of their social and eventually private roles at different societal levels (G, M, P). Given the variety of roles, we might speculate that the citizen role (the “civil society helix”) includes and intersects the others because the civic part might be very relevant also for successfully and efficiently carrying out the other professional roles (“behave as a good citizen”).

In addition, relations are both the fuel for the *proximity machine* and the outcome of well-designed proximity strategies. This means that relations are both conditions for and effects of proximity. Urban spaces are not only a series of physical objects and

structures in space (Lefebvre, 1991). Indeed, urban spaces are also constituted of social spaces resulting from people's social life. Relations can generate urban life having the potential power to take action, as it happens in the case of social movements. In the original QH model, the "Environment" is considered natural; however, we should also consider the built and digital environment. All environments change over time, and the natural space is often substituted with the built one, which supports the digital one.

In the review of the model we propose, natural, built, and digital environments are all present and are defined (signified) by relations connecting different typologies of stakeholders. These networks differ according to time, space, structure, competencies, needs, and goals; we can sum up the complexity and the variety of networks with five main dichotomies: Pre-existing/New, Local/Global, Direct/Mediated, Formal/Informal, Homogeneous/ Hybrid networks (Sedini, 2020). All these networks are also varied in light of the natural, built, and digital environments they take place in and are defined by the different typologies of proximity presented.

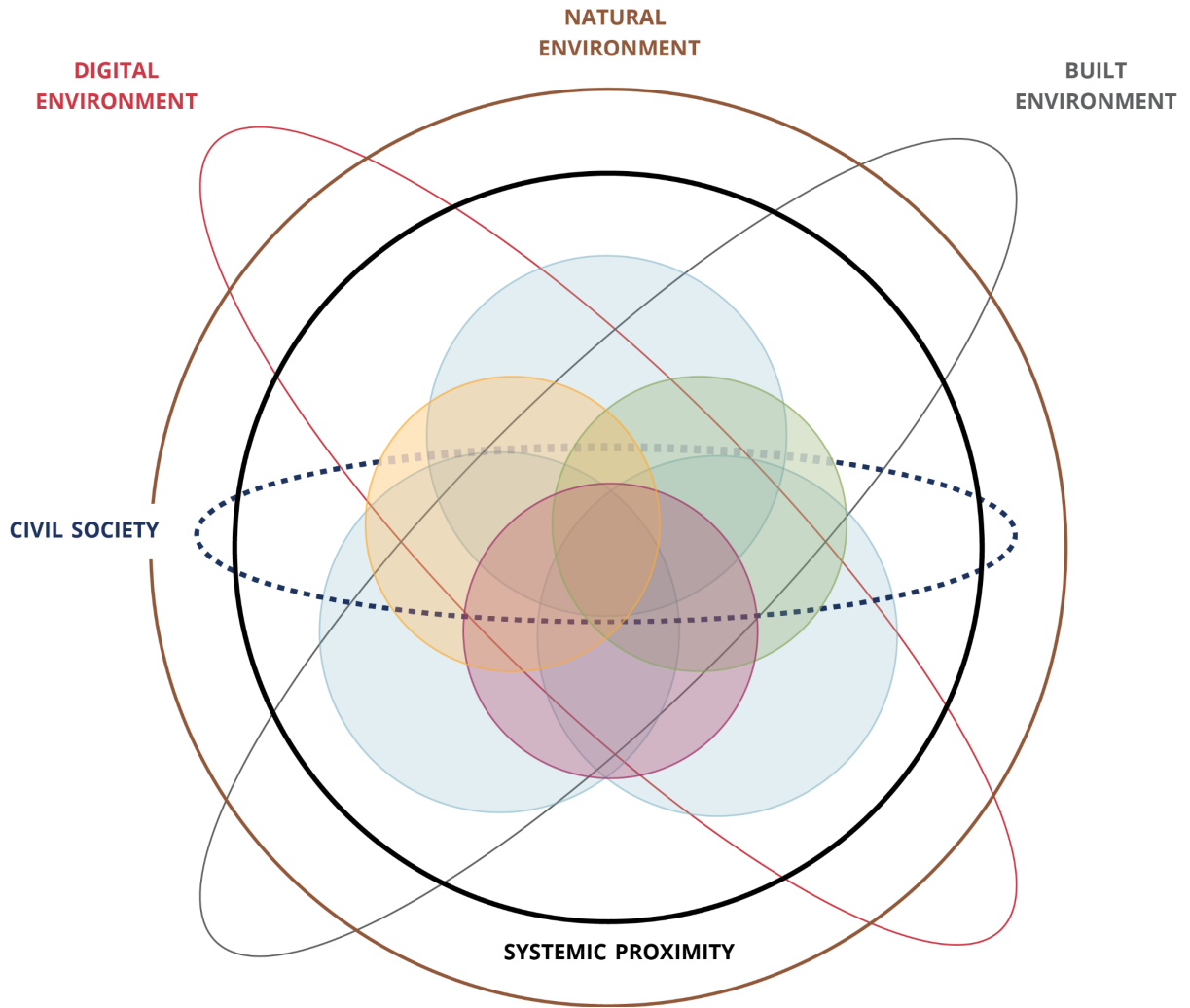


Figure 2. Systemic proximity model, second draft.

Design for relations proposal

According to Manzini (2021), coping with contemporary society means dealing with complexity because a city, a neighbourhood, a social service, or a business are ineluctably complex systems. That the city is a complex system is widely accepted and discussed by multiple scholars and practitioners worldwide, such as Rueda, who first put forth the idea of the city as an ecology (1993) and as an ecosystem (Torti Donada & Santasusagna, 2018). The city, as a complex ecosystem, is composed of several small local ecosystems that are related to one another as "minimum ecological units" (Manzini, 2021). The complexity of the city is articulated by its diversity and relationality by being thought of as an assemblage made up of various dynamic relationships between disparate entities (Stamatopoulou, 2020). Moreover, the sociologist Richard Sennett, together with his colleague Pablo Sendra (2020), promoted the idea of an open, flexible, alternative city that knows how to adapt to its inhabitants; where architecture, politics, urbanism, and activism combine in those infrastructures that create places that nourish rather than suffocate, unite rather than divide.

Within the urban complex ecosystem, citizens, institutions, and private and public actors interact and encounter a mesh of flows and relationships that can evolve and lead to conversations, communities, and projects.

Since cities are complex systems made up of networks of interactions, connections, encounters, dialogues, and, in some cases, communities, dealing with complexity has entailed shifting focus away from tangible artefacts to interactions and, thus, relationships. As a result, design is shifting from a single object to an ecosystem, which is like a relationship between objects (Rosati, 2018).

By looking at its various definitions, the term "relationship" is often used alongside the term "interaction" between people, objects, places, and so on. But if we look at relationships in the context of the city, we can come across a broader spectrum of the concept of relationship as interaction. There are, in fact, various types of relationships within the city. In 2021, John Thackara, during the Design Thinking Talk hosted by the Observatory Design Thinking for Business of the Politecnico di Milano, offered a list of

three: relationships with place; relationships between the urban and rural environment; and finally, civic relationships.

Thackara, the author of *How to Thrive in the Next Economy* (2015), emphasises the relationships that bind people together and suggests relational design and relational ecology as a method to restore places of communication and cooperation between humans and non-humans. “We need better relationships between places, communities, and nature. These relationships can be enabled by social infrastructures, which are a great design opportunity.”¹

In the literature, there is no clear definition of the role of design with respect to relationships, as the concept of relationship itself has yet to be circumscribed. Some authors and researchers consider relationships to be designable and even teachable, while other advocates consider relationships impossible to design and plan. In any case, the juxtaposition of design with the concept of relationships is attracting a lot of attention as well as being perceived as a buzzword to be unravelled.

What is commonly accepted is the view of the world as a complex of relationships before objects, where all things in the world are “constantly interacting with each other, and in doing so, the state of each bears a trace of the state of the others with which it has interacted: in this sense, they are constantly exchanging information about each other” (Rovelli, 2014 in Rosati, 2018: 46). In this framework, systems thinking becomes central, then Rovelli's words also acquire a much broader scope, which from physics crosses over into design, media studies, epistemology, and culture in general (Rosati, 2018).

Design for relations, proposed in this paper, aims at enabling and supporting human relationships in the city to positively trigger social systemic change (van der Bijl-Brouwer, 2022). Based, in fact, on the concept of systemic proximity, and thus that proximity focused not on single and specific aspects but as a whole (complex, diverse, dynamic, and multifaceted), design for relations takes its cue from the multidisciplinary

¹ John Thackara, 2021, the Design Thinking Talk, hosted by the Observatory Design Thinking for Business of the Politecnico di Milano.

practices of systemic and strategic design to implement theoretical and practical actions aimed at the benefit and regenerative capacities of these relationships.

Design for relations is still being defined and addressed in various ways. We know from the limited literature on the subject that it is concerned with tangible and intangible artefacts that may be used to create and maintain relations between various players (stakeholders, citizens, makers, investors, etc.) and nodes of interest and innovation (Blauvelt, 2008; Orii, 2020; Faravelli, 2020; Manzini, 2021).

Our proposal aims to nurture further investigation and experimentation to understand how design for relations can trigger and support systemic proximity by using a framework that takes its cues from both technical (e.g. systems thinking) and humanistic disciplines (e.g. Sociology and Urban Studies) and by putting attention not only on the result of the design process but most importantly on the relationships that arise, grow, and evolve during the creative process for the city's complexity and that is the real core for a virtuous long impact. In other words, efficient and lasting relationships result from those design processes that place at their centre the very relationships that are established between the different actors engaged and involved in the process and that will be part of the proximity system. Starting with Bourdieu's theory of social capital (1980) and Granovetter's studies on weak ties (1983), it is evident that relationships are significant in the individual and, consequently, the collective ability to deal with more or less complex societal problems.

Conclusion

The systemic proximity proposed in this paper does not exclude the existence of the types of proximity listed and addressed above but instead brings them together and links their fundamental and relational aspects. Therefore, holistic and systems thinking approaches have to be applied to the study and design of the territory through a synergy of all the intermediate stages between semiotic relationality and complexity in terms of more-than-the-spatiotemporal dimensions (Stamatopoulou, 2020).

When we speak of systemic proximity, there is a shift from one to the whole. The typologies of proximity presented and discussed by the various scholars' are current and viable but lack a systemic and relational vision (apart from Manzini, 2021). So there

is a great challenge facing research, namely to define and test dynamic and multidisciplinary approaches capable of managing this concept of proximity by considering its different dimensions, which not only reinforce each other but can also be replaced and evolve over time (Boschma, 2005). This is because systemic proximity is based on adopting the Quintuple Helix that holistically and dynamically sees the interaction and multiple relationships between disparate stakeholders, sectors, and knowledge. The networks which are built and created within and between the different stakeholders are very mutable and vary according to time and space, but also to the form and aims they take and look forward to, and to the level of mediation they foresee.

Systemic design can contribute to addressing the complex challenges and problems that systemic proximity triggers. Nevertheless, systemic design, while being an exploratory and interdisciplinary discipline, an advanced design discipline embracing architecture, planning, and social research, cannot perform on its own; in fact, a relational perspective is needed to describe, map, propose and reconfigure complex social systems.

For these reasons, we proposed design for relations as a framework that provides a systemic, holistic and ecological approach since it goes to act for the systemic proximity considering the various factors that constitute it: social, economic, environmental, cultural, and political agency.

It is not yet clear whether design for relations will be recognized as a discipline or only an approach (or even a -design- objective); many authors are, in fact, implementing different interpretations to address the intersection between design and relationships. But this paper offers a perspective that seeks to look at the relationships of proximity through a systemic, contextual, multipurpose vision, thus considering all the ecological agency factors and social, economic, environmental, cultural, political, and otherwise.

Therefore, to address the complexity that today's and tomorrow's worlds will present, design must act—whether as a discipline, approach, or design aim—to mesh systems thinking with interdisciplinary theories and practices. The discussion leads to a systemic and relational framework that can guide further design research.

References

1. Allam, Z., Bibri, S. E., Jones, D. S., Chabaud, D., & Moreno, C. (2022). Unpacking the '15-Minute City' via 6G, IoT, and Digital Twins: Towards a New Narrative for Increasing Urban Efficiency, Resilience, and Sustainability. *Sensors*, 22(4), 1369.
2. Battistoni, C., & Barbero, S. (2018). *Systemic design for territorial development: Ecosystem to support autopoietic local economies*.
3. Bauer, C. (1945). Good neighborhoods. *The Annals of the American Academy of Political and Social Science*, 242(1), 104-115.
4. Baumeister, R. F., & Leary, M. R. (1997). Writing Narrative Literature Reviews. *Review of General Psychology*, 1(3), 311–320.
<https://doi.org/10.1037/1089-2680.1.3.311>
5. Beck, U (2000). *What Is Globalization?* 1 edition. Cambridge, UK; Malden, MA: Polity.
6. Berman, S., & Marshall, A. (2014). The next digital transformation: from an individual-centered to an everyone-to-everyone economy. *Strategy & Leadership*.
7. Bourdieu, P. (1980). Le capital social. *Actes de la recherche en sciences sociales*, 31(1), 2–3.
8. Boschma, R. (2005). Proximity and innovation: a critical assessment. *Regional Studies*, 39(1), 61-74.
9. Carayannis, E.G. and Campbell, D.F.J. (2009), Mode 3 and 'Quadruple Helix': toward a 21st century fractal innovation ecosystem. *International Journal of Technology Management*, Vol. 46 No. 3, pp. 201-234.
10. Carayannis, E. G., & Campbell, D. F. (2012). Mode 3 knowledge production in quadruple helix innovation systems. In *Mode 3 knowledge production in quadruple helix innovation systems* (pp. 1-63). Springer, New York, NY.
11. Etzkowitz, H. and Leydesdorff, L. (1995), The triple helix–university–industry–government relations: a laboratory for knowledge based economic development. *EASST Review*, Vol. 14 No. 1, pp. 11-19.
12. Fassi, D., & Sadini, C. (2018). Design Solutions for Resilience. In H. Pinto, T. Noronha, & E. Vaz (Eds.), *Resilience and Regional Dynamics* (pp. 131–149). Springer International Publishing. https://doi.org/10.1007/978-3-319-95135-5_7

13. Ferri, G., Manzini, E., Manfreda, V., Baruchello, P., Curti, I., & Prato, L. (2021, February 21). *Abitare la prossimità: la città dei 15 minuti non è la città dei borghi. cheFare*. <https://www.che-fare.com/abitare-prossimita-citta-15-minuti-borghi/>.
14. Galvão, A., Mascarenhas, C., Rodrigues, R. G., Marques, C. S., & Leal, C. T. (2017). A quadruple helix model of entrepreneurship, innovation and stages of economic development. *Review of International Business and Strategy*.
15. Gorrini, A., & Bandini, S. (2018, November). Elderly Walkability Index through GIS: Towards Advanced AI-based Simulation Models. In *AI* AAL@ AI* IA* (pp. 67-82).
16. Granovetter, M. (1983). The strength of weak ties: A network theory revisited. *Sociological Theory*, 1(1), 201-233
17. Grant, J., & Perrott, K. (2009). Producing diversity in a new urbanism community: Policy and practice. *Town Planning Review*, 80(3), 267-290.
18. Harvey, D. (2005). *A Brief History of Neoliberalism*. 1st Edition edition. Oxford; New York: Oxford University Press.
19. Isaacs, R. R. (1948). The neighborhood theory: An analysis of its adequacy. *Journal of the American Institute of Planners*, 14(2), 15-23.
20. Jacobs, J. (1961). *The death and life of great American cities*. New York, NY: Random House.
21. Kissfazekas, K. (2022). Circle of paradigms? Or '15-minute' neighbourhoods from the 1950s. *Cities*, 123, 103587.
22. Latour, B. (2018). *Down to Earth: Politics in the New Climatic Regime*. Translation edition. Cambridge, UK; Medford, MA: Polity Press.
23. Lefebvre, H. (1991), *The Production of Space*. Oxford: Blackwell.
24. Lefebvre, H. (2003). *The urban revolution*. University of Minnesota Press.
25. MacGregor, S.P., Marques-Gou, P. and Simon-Villar, A. (2010), Gauging readiness for the quadruple helix: a study of 16 European organizations. *Journal of the Knowledge Economy*, Vol. 1 No. 3, pp. 173-190.
26. McAdam, M., Miller, K. and McAdam, R. (2016). Situated regional university incubation: a multi-level stakeholder perspective. *Technovation*, Vols 50/51, pp. 69-78.
27. Manzini, E. (2015). *Design, When Everybody Designs: An Introduction to Design for Social Innovation*. Cambridge, Massachusetts: The MIT Press.

28. Manzini, E. (2021). *Abitare la prossimità. Idee per la città dei 15 minuti*. IBS.
<https://www.ibs.it/abitare-prossimita-idee-per-citta-libro-ezio-manzini/e/9788823838208>
29. Manzini, E., & Menichinelli, M. (2021). Platforms for re-localization. Communities and places in the post-pandemic hybrid spaces. *Strategic Design Research Journal*, 14(1), 351–360. <https://doi.org/10.4013/sdrj.2021.141.29>
30. Martinotti, G. (1996). Four populations: Human settlements and social morphology in the contemporary metropolis. *European Review*, 4(1), 3-23.
31. Moreno, C., Allam, Z., Chabaud, D., Gall, C., & Pratlong, F. (2021). Introducing the “15-Minute City”: Sustainability, resilience and place identity in future post-pandemic cities. *Smart Cities*, 4(1), 93-111.
32. Orii, L., Alonso, L., & Larson, K. (2020). Methodology for Establishing Well-Being Urban Indicators at the District Level to be used on the CityScope Platform. *Sustainability*, 12(22), 9458. <https://doi.org/10.3390/su12229458>
33. O’Sullivan, F., & Bliss, L. (2020, November 12). *The 15-Minute City—No Cars Required—Is Urban Planning’s New Utopia*. Bloomberg. Retrieved June 29, 2022, from <https://www.bloomberg.com/news/features/2020-11-12/paris-s-15-minute-city-could-be-coming-to-an-urban-area-near-you>
34. Pei, X., Sadini, C., & Zurlo, F. (2019). Co-designing a walkable city for the elderly through systems thinking approach. *Proceedings of Relating Systems Thinking and Design (RSD8) 2019 Symposium*.
<https://rsdsymposium.org/co-designing-a-walkable-city-for-the-elderly/>
35. Perry, C. A. (1929). *The Neighborhood unit—a scheme of arrangement for the family-life community, regional survey of New York and its environments*. Neighbourhood and Community Planning, Committee of Regional Plan of New York and Its Environs, 8, 30.
36. Pivo, G. (2005). Creating compact and complete communities: Seven propositions for success. *American Institute of Certified Planners: Practicing Planner*. American Planners Association.
37. Pozoukidou, G., & Chatziyiannaki, Z. (2021). 15-Minute City: Decomposing the new urban planning eutopia. *Sustainability*, 13(2), 928.
38. Rueda, S. (1993). L’ecologia urbana i la planificaci3n de la ciutat. *Medi Ambient Tecnologia i Cultura*, 5.

39. Sadini, C. (2022). Hybrid economies in hybrid cities built on manufacturing, networks, and design, in Lockton, D., Lenzi, S., Hekkert, P., Oak, A., Sádaba, J., Lloyd, P. (eds.), *DRS2022: Bilbao*, 25 June - 3 July, Bilbao, Spain.
40. Sadini, C. (2020). *Collectively Designing Social Worlds: History and Potential of Social Innovation*. Milano: Franco Angeli.
41. Sim, D., & Gehl, J. (2019). *Soft city: Building density for everyday life*. Island Press.
42. Speck, J. (2013). *Walkable city: How downtown can save America, one step at a time*. Macmillan.
43. Stamatopoulou, A. (2020). Design for relations developing a methodology of mapping and designing in the city as an open, complex system. *FormAkademisk*, 13(4), 1–41. Scopus. <https://doi.org/10.7577/formakademisk.3379>
44. Talen, E (2008). Design for diversity: exploring socially mixed neighbourhoods. *Architectural Press*: Amsterdam.
45. Thackara, J. (2015). *How to thrive in the next economy*. London: Thames & Hudson.
46. Torre A. and Gilly J. P. (2000), On the analytical dimension of proximity dynamics, *Regional Studies* 34, 169–180.
47. Torti Donada, J., & Santasusagna Riu, A. (2018). La ciudad como ecosistema. Entrevista a Salvador Rueda. *Biblio3W Revista Bibliográfica de Geografía y Ciencias Sociales*.
48. Van der Bijl-Brouwer, M., & Malcolm, B. (2020). Systemic design principles in social innovation: A study of expert practices and design rationales. *She Ji: The Journal of Design, Economics, and Innovation*, 6(3), 386-407.
49. Wellman, B. (2002). Little Boxes, Glocalization, and Networked Individualism. In M. Tanabe, P. van den Besselaar, & T. Ishida (Eds.), *Digital Cities II: Computational and Sociological Approaches* (pp. 1025). Springer. DOI: 10.1007/3-540-45636-8_2
50. Weng, M., Ding, N., Li, J., Jin, X., Xiao, H., He, Z., & Su, S. (2019). The 15-minute walkable neighborhoods: Measurement, social inequalities and implications for building healthy communities in urban China. *Journal of Transport & Health*, 13, 259-273.