

Digital and Physical Margins: Pre-Visions for New Interactions in the City in Progress

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COVID-19 era forced society, cities and shared spaces at the edges of society, progressively shattering their own memory. The most common and crowded places have become almost exclusively virtual, hastening a process of digitalization and technological growth aimed by the Sustainable Development Goals (SDGs) of the 2030 UN 'Agenda', but which is still immature and superficial because, in many cases, it is forced by an emergency rather than by a consciously planned evolution. Moreover, the temporary emptying of metropolitan areas and the denial of social relations at all levels - personal, work, psycho-cultural and recreational - has progressively, but not indelibly, determined a sort of schizophrenia of the 'signifiers' as well as the 'meanings' of the urban fabric, of the memory of the spaces' use, as well as of public buildings or private houses. The current boundary between analog and digital, that will hopefully be transformed into one harmonious integration and interaction, is the field on which the paper intends to focus its attention trying to define a balance (trans- and post-pandemic) between the re-appropriation of the collective living and the preservation of advantages widely demonstrated by the support that digital technologies can offer.

Introduction, Scientific Debate and Disciplinary Approach

In urban planning such as in architecture, the 'margin' is traditionally understood as a border— a clear and precise delimitation separating one territory from another, or defines a specific area. The term, translated and reinterpreted in relation to anthropized areas, identifies, in the modern imagination, those degraded metropolitan areas without a strong identity which often corresponds to the suburbs, to the dormitory districts, to the historic centers transformed into ghettos, to the public spaces poorly experienced and with no identity, or to disused industrial complexes. The meaning therefore acquires a negative and vaguely derogatory meaning because it is related to 'unsolved' or 'critical' places of contemporary living.

The digitization process is the protagonist of the 21st century and the thrust deriving from the pandemic event in progress has introduced new interpretations of the concept of 'margin'. It moves away from the physicality of the compromised areas just described in order to relate anthropized habitats at large to the virtual one proposed by the WWW (World Wide Web), IoT (Internet of Things) or ICT (Information Communication Technology) according to a logic of "digitally

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integrated urban space”¹ anticipated in various experiments, but still very far from reaching a maturity or a widespread awareness.

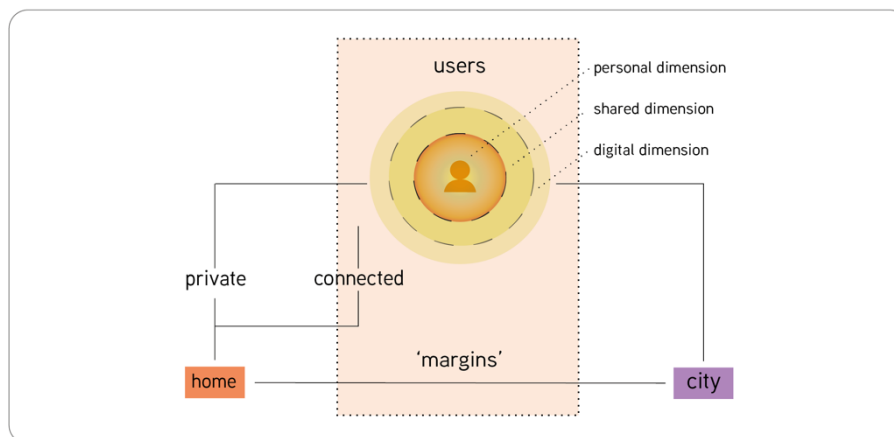


Figure 1. Home, City and Users: The ‘Margin’ Idea

Source: Morozzo, Delprino 2021.

In this sense, the margin (Figure 1), no longer understood as a physical and tangible border, becomes that undefined place; in the worst case scenario it separates, while in the best case it connects the analogue to the digital. It is a place that, due to the digital forcing suffered in the COVID-19 era by sectors such as culture, work and training, risks acquiring the same negative values as those unsolved urban fabrics.

In an increasingly liquid society and dimension of daily life, it is therefore advisable to act immediately by reasoning on the one hand on the experience still in place and on the other hand on the positive role that the margin can acquire if we attribute to it new potential, helping to define it as the space of relationship and integration between two parallel realities that can mutually benefit from its strong formal and functional identification.

The pandemic has placed society in front of a reality (Figure 2) where the collective buildings for education, culture and work have been recently voided in favor of an ‘underworld’ where the predominant technology is that which establishes exclusion or inclusion. In this scenario these ‘spaces’, meaning both physical locations and as virtual platforms, open up to new interpretations and tools able to discern the pandemic event.

1. M. Castells, *La nascita della società in rete* (Milano: Università Bocconi Editore, 2014); C. Ratti and M. Mazzarello, “Leveraging the Use of Digital Technologies to Activate Public Areas and Foster Creativity,” in M. I. Ferreira (Ed.) *How Smart is your City?: Technological Innovation, Ethics and Inclusiveness* (Berlin: Springer, 2021).

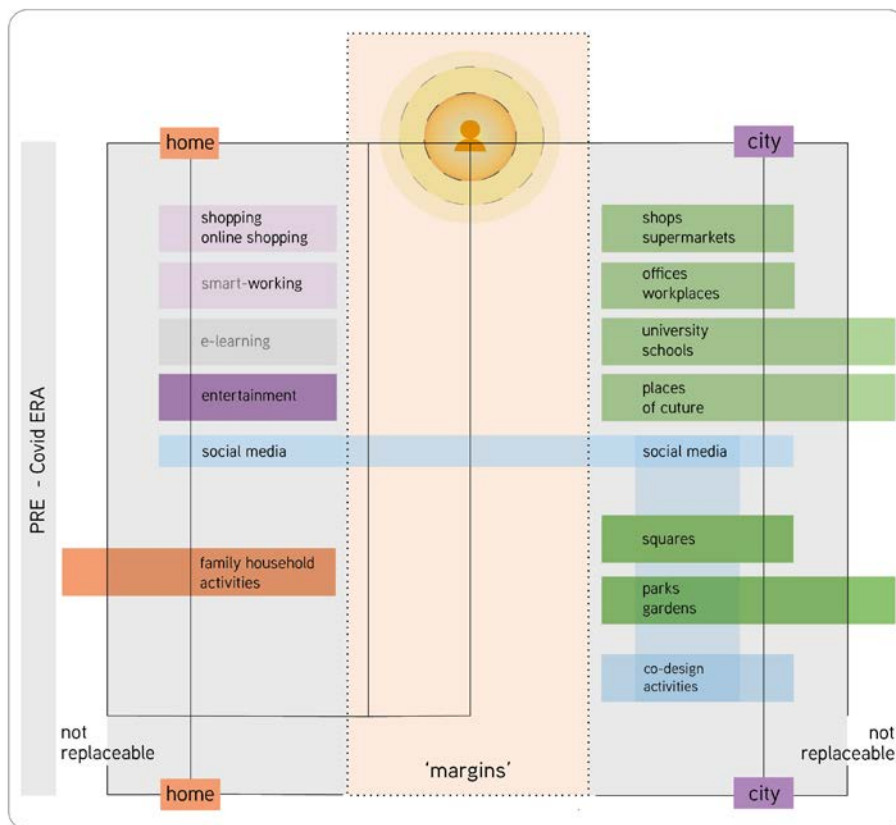


Figure 2. Home, City, Users and ‘Margin’ During PRE-Covid ERA

Source: Morozzo, Delprino 2021.

During the pandemic users have been modifying their behaviour and habits according to the new workspaces, which are either physical but limited or virtual. People stuck at home included the virtual platforms where they work and communicate with colleagues with private residences.

The margin has been shifted to disappear, alongside the border defining the physical and the virtual. Homes have been dematerialized and absorbed, losing their vital primary function.

Tools have emerged and been designed to help blunt promiscuity, but they are currently not enough to achieve the goal of giving virtual workplaces an identity in a way that preserves that of the private home. The possibility to switch off one’s own video camera, for instance, may give more privacy; but it is only palliative and does not fully compensate.

At the same time, public or private buildings of collective living, temporarily abandoned, have gradually lost their function and identity.

In this context it’s essential to define a clearer margin so that houses could recover their scope and privacy. Video calls appear like portals to go through the margin, doors letting in more people than normal.

In the course of this paper, it is considered the state-of-the-art of digitization of interactions within the workplace, universities and places of education, cultural

and recreation contexts. It proposes a reflection that takes into account the futurability of *phygital*² solutions embracing the goals of the UN SDG ‘Agenda’, thus considering environments where one has access to a fairly stable internet connection and basic technological tools.

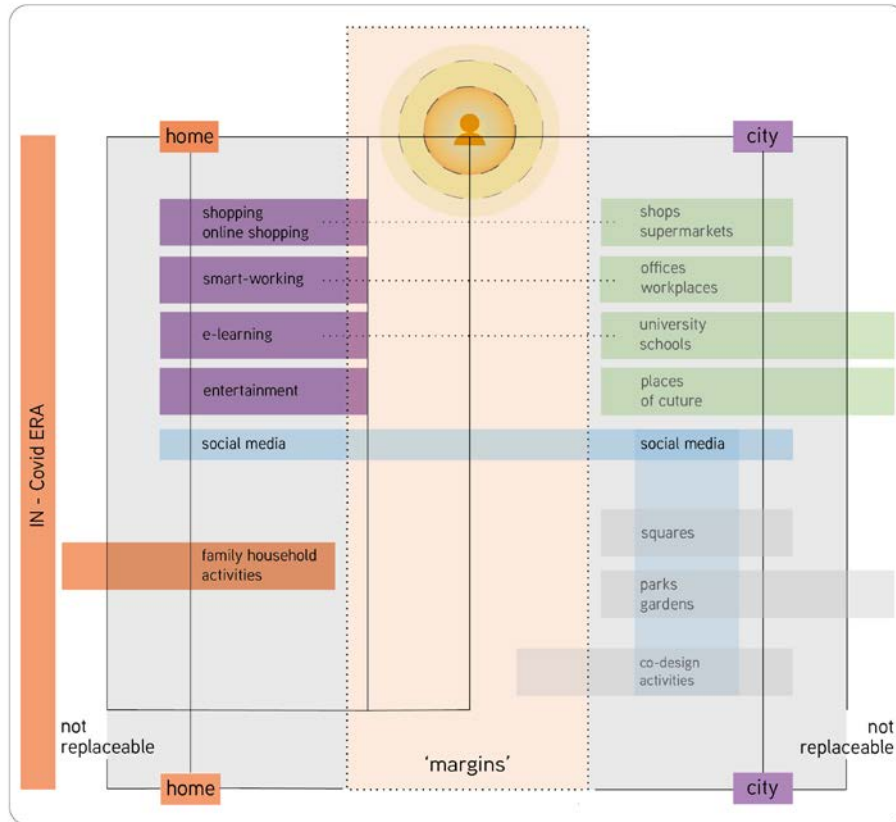


Figure 3. Home, City, Users and ‘Margin’ During Covid ERA

Source: Morozzo, Delprino 2021.

During the lockdown, working tasks have been accomplished using the same tools as used for entertainment and socializing with peers. In this way, the homes become ‘the Place of Everything’ (Figure 3). Virtual rooms should be confined and clearly separated from everyday life. Users are active actors moving on platforms which can play different roles, changing their aspects and functionalities according to that. When they play an institutional role, they should provide official and trackable information. The goal is to redistribute the culture, to track and preserve it, making it institutionalised and accessible, so that houses can reacquire their dignity. In the same way workplaces, educational or cultural buildings can regain their identity by building a strong relationship between physical space and digital media, taking advantage of the latter rather than succumbing to it.

2. With “phygital” it is described the blend of digital and physical experiences. This approach can add value by combining physical and digital experiences by making information accessible in a multimodal way.

Furthermore life during the pandemic event, in its dramatic relevance, has demonstrated the importance of to “leave no one behind” as Antonio Guterres, Secretary-General of the United Nations, said³ and the need to look at a different UN ‘Agenda’ SDGs with an interdisciplinary and systemic approach has reinforced⁴ in order to achieve a real benefit from existing experience, and to foresee future scenarios and better living environments.

A broad and collaborative vision may drive the difference by supporting the achievement of the SDGs at different levels. Starting with the goals specifically dedicated to work, such as number 8, to education, such as number 4, or to building resilient and technologically advanced infrastructures, such as number 9, even apparently unrelated scenarios can be addressed. If equally distributed and accessible, the goals for digital innovation can lead to an immediate impact and will be able to foster or contribute over time in terms of widespread sustainability also in relation to the other goals. A correct phygital approach can in fact lead to an intelligent use of space, less convergence and pressure towards users in metropolitan centres, a reduction in travel transportations and the reduction of the pollution produced in the environment, etc.

Briefly, a correct interpretation and development of the concept of margin - which is able to look beyond the digital emancipation on its own - fulfills Antonio Guterres’ request on several fronts, contributing to a large number of SDGs of the UN ‘Agenda’ directly or indirectly related to technological or digital innovation itself.

The paper, in a user-centred vision, contextualised the challenges for a better and more sustainable world, addresses the relationship between remote activities and the tools that enable them in the urban context, whether it be work, cultural or educational, starting from some solid points such as: Rifkin’s vision or the Ghel’s one; the considerations repeatedly expressed by Carlo Ratti as a researcher and architect at the same time and, eventually, the reflections that emerged from the AICA Summit (Italian Association for Computer Science and Automatic Computing), *60 Years of the Future*, in relation to the trends expressed by the world’s major digital behemoths.

Rifkin reminds that a strong community is compulsory for a healthy community, as it’s the core of social trust.⁵ Building a community is very important while digital identities take shape. Each identity should be defined by the terms of the platform itself, alongside the development of all the actors in the system, which works when the roles are assigned and the tasks restricted to the workflow and the workspace.

The community may be built in virtual rooms, but also in physical buildings and open spaces. Optimising the digital tools doesn’t mean to abandon all the rest—quite the opposite, stating the advantages of distance working may help creating a new scheme to decide which tasks are better performed remotely and

3. <https://news.un.org/en/story/2020/04/1062492>. [Accessed 2 April 2021.]

4. L. Bistagnino, *Design Sistemico. Progettare la Sostenibilità Produttiva e Ambientale* (Bra: Slowfood, 2009).

5. J. Rifkin, *L’era dell’accesso. La Rivoluzione della New Economy* (Milan: Mondadori, 2001).

which ones need physical meetings. In this way the workload can be distributed properly.

Cities evolve according to these new needs and tools, still keeping trace of their identities and memory. Cities need to be organised according to specific digital and human needs. Mazzarello and Ratti⁶ distinguish between tangible elements, which may be a barrier or physical layers to be used in the environment, and intangible features, which are the ways for people to interact with and within the city itself (Figure 4).

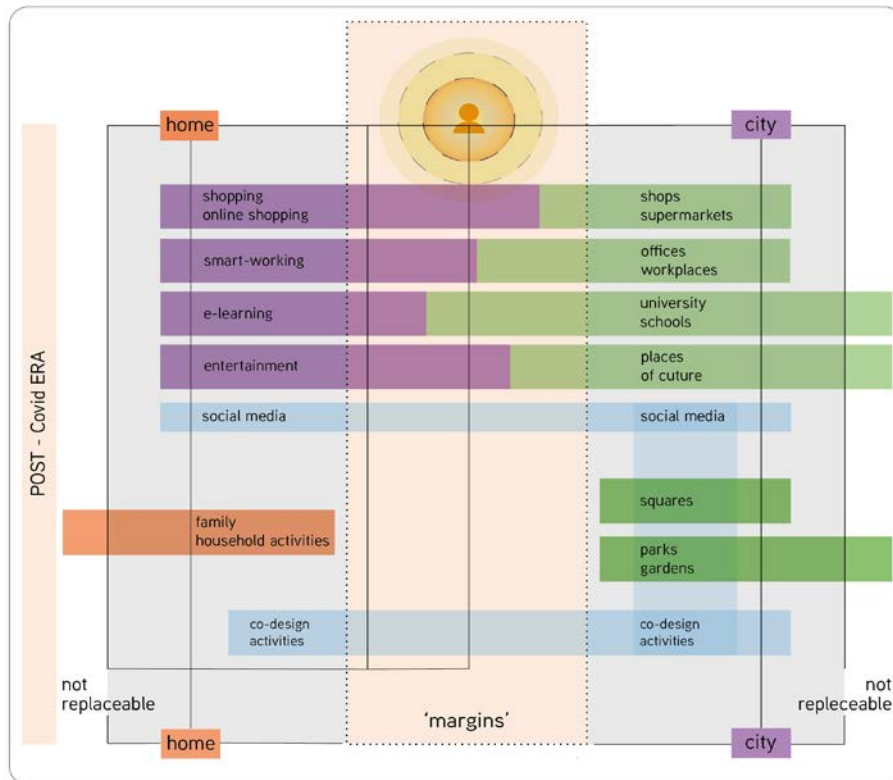


Figure 4. Home, City, Users and 'Margin' During POST-Covid ERA

Source: Morozzo, Delprino 2021.

A hyperconnected urban fabric should clearly design and define both kinds of interactions, to combine phygital experience but at the same time to set the margin. Spaces are filled with different kinds of interactions, involving the physical space itself and also with human contacts. But, there's another variable in this equation, which is the digital interactions that are recurrent, linked both with individuals and with space. Gehl⁷ sets the quality on an environment according to the balance among necessary, optional and social activities. All of them make people move and interact with each other and concurrently with the space. The latter, the ones involving the actual presence of humans in a shared area, are 'resultant', inasmuch

6. Ratti and Mazzarello, "Leveraging the Use of Digital Technologies to Activate Public Areas and Foster Creativity," 2021, 48-50.

7. J. Gehl, *Life Between Buildings: Using Public Space* (London: Island Press, 2011).

they are the key for all the other activities. Nowadays we can also share virtual spaces for the same reasons: amusement, socialization, learning, work.

Virtual platforms become the extension of the shared area. They should be threatened when paying attention to their purposes and scopes, to set the margin between private and shared, home and public spaces. As homes are private places that people may share with close friends and family, digital platforms can be set as comfort zones. Even so, the platform built to work shouldn't collide with intimate places and merge.

The aim of this work is to envision a sustainable future in which the digital can definitively take on the role of an extension of physical space rather than an alienation of it. Design and psycho-anthropology for design as disciplines capable of connecting knowledge, people and processes are the binoculars through which the present may be observed in order to define a better and human-scaled future.

An approach to scientific debate and research at the Italian Society of Design, in its capacity as a research institution, renews and promotes this approach by dedicating the 2021 annual conference *Design to Connect* to it, in which the “[...] design as a ‘relational’ and ‘connective’ discipline, and the project as a tool for building relationships and connections, emerges forcefully. Starting with the metaphorical and virtual meanings of the verb ‘to connect’, linked today mainly to the digital dimension and networks, it is also necessary to address the profound meaning in the concrete interrelationships between people and their environment, between people and technologies, between people and each other. This is a commitment in which design, through its imaginative, experimental and planning sensibility, can challenge itself, renewing methodological approaches, orientation and intervention tools, both in the construction of new visions, and in the social and cultural spaces reorganisation, ways of daily life, production and consumption.”

Method and Debate Focus

At this point the ‘margin’ may be defined as an opportunity for a city in progress, oriented towards a future in which the hybridization between physical places and services may determine sustainable relapses in terms of time, resources and inclusion (Figure 5). In this scenario, this paper, through a design-driven approach focused on society needs, is aimed to: re-read critically and with a positive sense the meaning of ‘margin’ as a field of development, also integration of digital-based technology and reassertion of the urban identity; foresee resilient dynamics for (digital) antifragile systems with aesthetical/inclusive characters, as well as system/services, necessary to make them efficient and representative of those physical places which they flank and support.

The essay addresses the issue with a scientific approach based on the founding pillars of Design Thinking and Human Centered Design. Each reflection is the result of a careful observation phase of the phenomenon investigated with an empathetic attitude aimed at understanding—from the user's point of view rather than the observer—the dynamics, advantages and disadvantages of digital life during the pandemic. Observation that aims to establish a constructive comparison

between past habits, linked with the physical and tangible experience of the workplace, university classrooms and cultural buildings and the current condition that has relegated the same activities in a virtual world, temporarily nullifying the physicality that has distinguished them over time and determining new perspectives also in relation to issues of inclusion.

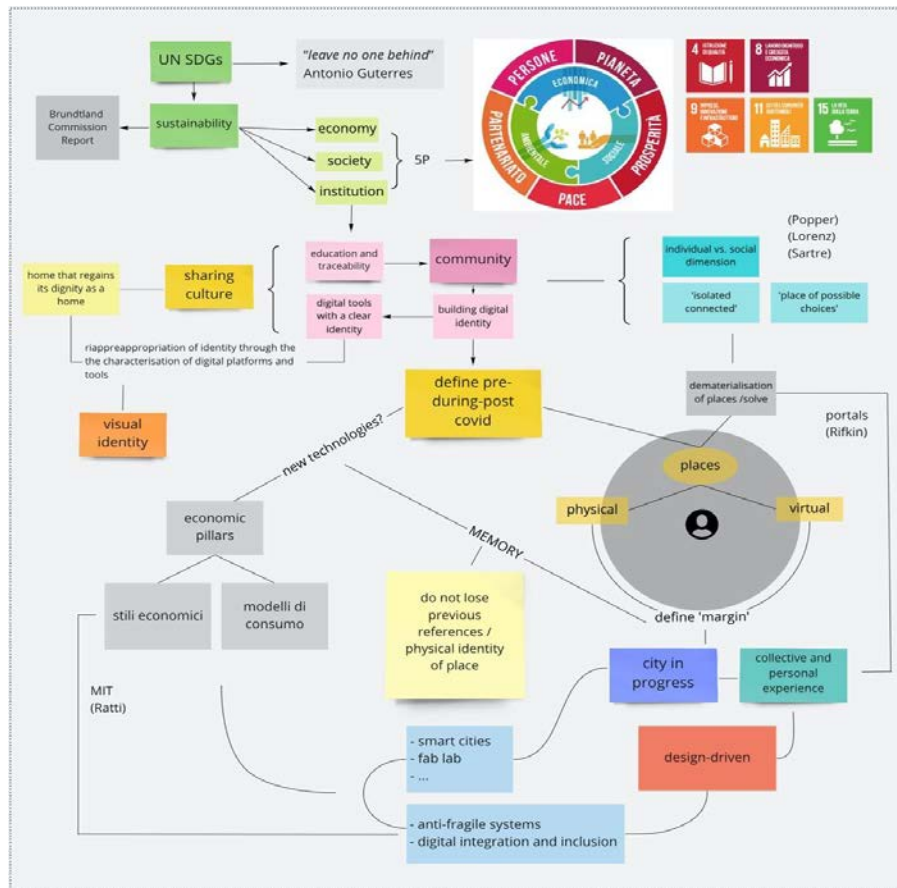


Figure 5. Brainstorming with Interactive Digital Tools to Define the Scenario
 Source: Morozzo, Delprino 2021.

From this perspective, digital is also a tool for collecting data and exploring user needs. Data-centred goes alongside the human-centred, in a balance whereby people’s needs are placed at the core and are improved through the use of data and the integration of new or renewed digital tools, acting as a bridge between the physical world and virtual platforms for work or leisure. This exploratory attitude is enriched in parallel by the intense debate in progress and by the literature involving different knowledge such as architecture, informatics, design and social sciences.

In addition, the direct experience gained in the academic field and the critical reflections born within the scientific community constitute a further element of investigation and reflection in order to propose a sustainable future and a clear identification of the margin. The academic context, in particular, has been observed, experienced and studied from two different points of view: on one hand,

the teacher has been assimilated as a smart worker and as a provider of cultural and training content, on the other hand the student has been seen as a recipient, but also as an actor in the implemented cultural offer. This has led to the definition of scenarios and *personas* capable of representing both the training context and that of the work and culture environments.

In order to do this, ‘variables and invariants’ of the three different scenarios were identified in order to focus attention on the invariants common to the three areas and on these to define the margin that in the future will moderate the relationship between physical and digital. The invariants are in fact the common denominators of worlds that are occasionally distant, but that are equally overwhelmed by the same critical issues: the zeroing of the use of urban spaces and buildings, finding a work-life balance, restoring dignity to the home, the desire and need to regain possession of the physicality that the pandemic has denied, avoiding stress or burnout from working remotely, the desire to learn from the potential of technology as a useful tool for growth and inclusiveness, the need to review and interpret the digital approach first in terms of economic sustainability and benefit for human well-being.

In a perspective aimed to define the different invariables characterising the investigative scenarios (Figure 5), video conferencing platforms, social media, tools for sharing interactions and collaborative projects and also the different ways of offering cultural contents through the web were analysed and compared in relation to the experience of use. Attention has been paid to the investigation of innovative or unconventional uses of well-known and already widespread and therefore easily accessible tools and applications (Facebook, Instagram...) and new tools still with unexplored potential.

The renewed relationship with one’s home and the city has brought new needs in terms of how to interact with already familiar and widespread tools. On the other hand, it has led to the emergence of new platforms as a result of the need to have digital tools designed ad hoc at one’s disposal for work and entertainment, but also to broaden the discussion. At a time when personal relationships are limited on a physical level, the need to have new ways of expressing oneself and relating to others has emerged.

Psycho-Anthropology, Margin and Inclusion

Human existence, in its individual and social dimension, both without interruption in their reciprocity, is the expression of an “approximation of the defect to oneself.” Basically, none of us can be said to actually be what we would like to be, because there is always a margin that separates us from being what we want to become. In other words, and according to the perspective of the evolutionary epistemology of Karl Raimund Popper and Konrad Lorenz,⁸ human beings find themselves existing on this planet in order to learn. More simply, we

8. K. R. Popper and J. Eccles, *L'io e il suo Cervello. Materia, Coscienza e Cultura* (Roma: Armando Editore, 2002); Popper and K. Lorenz, *Il Futuro è Aperto* (Firenze: Bompiani Giunti Editore, 2002).

live to learn. Our whole life is characterized by this existential imperative, at different and personal levels of consciousness. For each of us there is an individual path that we verify during life itself, with the help of a social and cultural system that can facilitate, more or less positively, the identification of the path. This contribution fits precisely in this context, as we want to reflect on the role that technology, in ever and continuous innovative evolution, can play in the management of the margin, understood in its collective and personal experience. A technology that can effectively improve the human 'feeling of community' that in the current globalized era seems to be relegated to the virtual world only. We are more and more 'connectively isolated,' with a concrete difficulty in achieving and sharing in everyday life that is 'real' amongst living beings, always having lived in villages, communities and now in large metropolitan cities made up of neighbourhoods.

The Cartesian model and the conceptuality envisaged by it are in crisis, and we perceive its epochal significance precisely in this pandemic period. Our traditional perspective of things (objects, situations, movements and processes - therefore 'time' and 'space') does not satisfy the curiosity that our species seems to demonstrate towards different and invisible forms of 'energy'. It is true, it is an 'ancient curiosity,' without which we couldn't have organized our evolutionary adaptation and which today seems to break into our daily lives with greater force.

How does this curiosity manifest itself? In a behavior directly resulting from the boredom of existing, dramatically experienced when the human being is on the edge of life itself, outside of that continuity of change, which is the only possible anthropological coherence.

One of the many existential declinations of human *curiositas* is expressed in the perception of time, and the matter has always been a source of philosophical and design investigations. What we define as past, present and future are cognitions of the mind, that is, brain activities coexisting within our vision of the world. These categories are what we need to place human actions, establishing that cause and effect relationship with which we try to find a meaning between what is antecedent and consequent. In this cognitive forcing we establish the shared meaning of the concept of reality. But, after all, we do not know at all what we mean by this term, what reality really is.

"Reality is the place where our choices are made possible," that is the "place of possible choices," as J. P. Sartre⁹ would say. This is where the concept of space-time inclusion of differences becomes decisive, so that, with the help of technology, we can establish that existential continuity that every human being seeks throughout their life. It is a consequentiality necessary for the human being to perceive themselves in life and in change. Technology, as this historical global pandemic period is demonstrating, really plays a decisive role in this dimension, favoring and fueling the transition from the margin to the center, both from an economic-social and cognitive-value point of view.

We live and think in a global world, made up of virtual perceptions in which human existences are combined, modifying the real, conveying it in the virtual. 'Click' is the new password, the new contact with the world, and in which we express our desires and projects of participation, of inclusion. The virtualization of

9. J. P. Sartre, *L'essere e il Nulla* (Milano: Il Saggiatore Edizioni, 1965).

reality is paradoxically much more concrete than what we believe. It is no longer necessary to refer to a static, immobile substance defined once and for all, because the virtual image introduces the experience of a time that is no longer one-way and irreversible, inhabited by events. In the new online image, in streaming, in chat, time is reversible. The arrow of time is now relegated to the behavior of matter, certainly not to the energetic fruition of a click. One can contact the real in the virtual, going in all the directions that space allows us to invent another.

Psycho-anthropology for design favors, among its various fields of application, the study of what is defined as obvious within a culture. In almost all human social manifestations, geographically and historically determined, there are many things considered to be obvious. Upon further research of those that we consider to be the most obvious, the idea that the human being needs other individuals certainly emerges. It is true, of course. To what extent, however, are we all actually in agreement? Then, are we really sure that this is true? The social and effective organization of culture does not seem to take into account at all, if not for mere and instrumental reasons, this human *conditio sine qua non*, that life itself would not exist. In fact, life on the edge of a city, of any urban place, does not seem to take into account this anthropologically-determined need and within the existential perimeter that the margin realizes, in turn, the result of social exclusion, that human beings experience boredom.

Boredom arises from cognitive stereotypy, that is the belief (strongly rooted in general confirmation of desires of one's omnipotence) that the 'old way is better than the new one,' even if it is no longer able to recognize it. In stereotypy, certainties and convictions live, thanks to which one cannot doubt one's own traditions, while one derides the others. How many beliefs are there that each individual considers absolutely important and from which one believes is not possible to waive? Many; and far more in quantity than what the media society apparently would like us to believe they've changed. Well, one of these is precisely the idea that technology is just a tool without intentions, or rather, that it is the solution to the human discomfort that every marginality experiences in their daily lives. But every human instrumentation expresses an individual and social upstream intention that makes it a vehicle for change, and for this reason it becomes important, if not indispensable, to culturally invest in training, in education, in a design that motivates the development of inclusive attitudes. The tool is not enough to improve the existential conditions of the human species if we do not see in the tool the opportunity to respond to those obvious things that make us consider the margin as something obvious, natural. The concept of margin emerges when one believes they possess a center, and think as far from oneself what they, as a person and an individual, consider to be geographically and culturally separate from one's daily life. We should therefore design training and educational interventions motivating human beings to consider technology as a final instrument of that desire for solidarity that can save us, as a species and as citizens of the world.

Psycho-Anthropology and New Models of Inclusion through Social Media

The increasing dependence on information and communication technologies (ICT) in pandemic life, both in our professional and private lives, requires us to reflect on how we can manage our life in the digital age. For this reason, many researchers from different disciplines are actively involved in exploring conditions on how to stimulate and receive optimal benefit of the new opportunities that are being offered by ICT. It is now becoming relatively evident how, after this pandemic era, technology's role will take on a cultural and social value, more and more linked to individual psychological aspects. Although the pandemic has united us, the digital divide has demonstrated how technology alone does not guarantee social inclusion, if it is not appropriately embedded in a system of much more full cultural and social policies.¹⁰

The current and global management of information by social media, as well as cultural and social opportunities, highlights the need for an adequate training/education towards their use. The presence of “hate communication” styles, together with fake news, witnesses a widespread cultural unease, regardless of social class. In fact, the lack of cognitive tools that facilitate the evaluation of information, as well as opportunities for existential improvement in one's daily life, should be ‘solved’ with precise and continuous planning actions over time.

One of the fundamental neurocognitive factors to foster a real osmosis between the various professional and social categories present in the cultures of the world is not only the “language” (in relation to the ethnic group to which they belong), but the “motivation for active participation”. The ontogenetic development (from birth to death) of all human beings includes the presence of “sensitive periods’ and ‘critical periods’”.

On the basis of the Evolutionary Epistemology of which we have already discussed above, the behaviors that we will be able to learn, as well as the attitudes we manifest even before acting, change over time, in harmony with the environment and social conditions in which one finds themselves to live. In order to cope with this variability, the Central Nervous System (CNS) modifies its neuronal connections based on environmental interactions. Thanks to adaptive adjustments based on the use or on the quality of performance, the nervous system adapts its functional properties to the needs and to the environment of the individual accurately.

Thus, many nervous circuits go through a period during their development in which the ability to adapt in response to the experience is substantially greater than its predecessor when the circuit has reached maturity. This period is commonly referred to as “sensitive period”, within which the information derived from experience selects some specific functional properties from a range of possible

10. N. Garnham, “Information Society as Theory or Ideology: A Critical Perspective in Technology, Education and Employment in the Information Age,” *Information, Communication & Society* 3, no. 2 (2000): 139-152; P. Golding, “Forthcoming Features: Information and Communication Technologies and the Sociology of the Future,” *Sociology* 34, no. 1 (2000): 165-184; I. Goodwin and S. Spittle, “The European Union and the Information Society: Discourse, Power and Policy,” *New Media and Society* 4, no. 2 (2002): 225-249; C. May, *The Information Society: A Skeptical View* (Cambridge: Polity Press, 2002).

properties that the circuit could adopt. If appropriate experience during this period is not acquired, many circuits will never reach the ability to process information in a specific way, with the consequence being that perception or the behaviour may be permanently loss-making.

In addition to these periods, during our learning there are also ‘critical periods’, that is, those temporal situations in which a great increase in neuronal plasticity occurs within our brain. For example, human beings go through important critical periods during the acquisition of language, competence in stereoscopic vision, peer-to-peer social relations during adolescence, entering the world of work, etc. Despite this, for many nervous circuits, experience does not seem to be indispensable for developing some cognitive skills, and the individual can also develop adaptive behaviours. In these cases, we are talking about a sensitive, but not critical, period. This is why every critical period is certainly also sensitive, while every sensitive period is not necessarily critical too.¹¹

Based on these considerations, the realization of constant and continuous social contacts that may occur during virtual social interaction, can favour, if properly addressed and conveyed, the overcoming of critical evolutionary periods—periods that, in addition to the temporal dimension common to the age of the individuals who pass through them, still decline in the social and urban environment where the same actors spend their existence. Being adolescents in the urban suburbs, within marginal socio-cultural dynamics, is undoubtedly different than being in the center of a city and in a stimulating and affluent neighborhood.

Social, as is happening with the new app *Clubhouse*, and not only in the United States but throughout the world, therefore play an important role, both from an individual motivational and cultural point of view, fueling the need for contact and interpersonal relationships. We can read about this new social “Clubhouse” as a new type of network based on voice. When you open the app you can see open “rooms” full of people talking so you can hop in and out, exploring different conversations. You enter each room as an audience member, but if you want to talk you just raise your hand, and the speakers can choose to invite you to speak. Or, you can create a room of your own. It’s a place to meet with friends and with new people around the world to tell stories, ask questions, debate, learn, and have impromptu conversations on thousands of different topics. The intonation, inflection and emotion conveyed through voice allows you to pick up on nuance and form uniquely human connections with others. You can still challenge each other and have tough conversations, but with voice there is often an ability to build more empathy. There have been rooms with people from all walks of life finding common ground.¹² Furthermore, founders say that, “The world is not a monoculture, and we want *Clubhouse* to reflect that. Ideally the experience is more like a town square, where people with different backgrounds, religions, political affiliations, sexual orientations, genders, ethnicities, and ideas about the world come together to share their views, be heard and learn. Some of these communities come together to debate. Some come to relax and joke around. Others hold

11. L. R. Squire, D. Berg, F. E. Bloom, S. du Lac, A. Ghosh and N. C. Spitzer, *Fondamenti di Neuroscienze* (Milano: Ambrosiana, 2016).

12. Clubhouse Blog: <https://www.joinclubhouse.com/check-1-2-3>. [Accessed 2 April 2021.]

listening parties and fireside chats. We think many styles should be supported, and we're working on tools to help everyone create their own space, deepen friendships, meet new people and have meaningful discussions in the way that suits them best."¹³

Thanks to this relationship/analogy with the 'square' of any urban fabric, *Clubhouse* creates and stimulates the creation of virtual occasions in which people, of different ages, social backgrounds and cultural backgrounds, can share interests, desires and content. It also promotes an increased 'motivation to stay together', with the possibility to subsequently create meetings in different urban areas.

Pre-Visions for New Identities and Interactions of Public and Private Spaces

From the analysis of the reference scenario and the psycho-anthropological considerations that involve it, it is clear that it seems to be necessary to build a post-pandemic recovery by carefully reflecting on the role of the "margin" and on a phygital approach able to mediate digital technologies and physical experiences, moods and expectations (Figures 6-8).

There is a clear need to reassess the meaning of "contact" and "exchange" in a logic of connection that transcends the physical aspect without denying it, in order to identify in the seven senses (sight, hearing, touch, smell, taste, sense of balance and proprioception) possibilities for additional interactions useful to complete the direct experience. Similarly, those "weak links" that are naturally nurtured through encounters and confrontation -whether random or planned- are the elements from which to start in order to define the use of working, training and cultural spaces with new eyes.

Carlo Ratti, interviewed for *Open* magazine, states that, "[...] the so-called weak links that come from the randomness of our encounters are very important, otherwise we risk closing ourselves in a bubble that polarises our ideas. If we only work online, our network of contacts is impoverished. People we meet by chance, precisely because they are not connected to our network, can expose us to a condition that we had not foreseen. And this increases our creativity and broadens our horizons. That's why it is important to have a physical space."¹⁴ This vision helps to validate a phygital approach and supports the need for a reinterpretation of the role of architecture and infrastructures in general.

Interesting ideas and stimuli aimed to redefine the use and identity of buildings come from a variety of fields all over the world. These include the experiments conducted by the global giant Cisco, the Designtech institution¹⁵ in Milan, the Senseable City Lab¹⁶ at MIT directed by Carlo Ratti and the work,

13. Clubhouse Blog: <https://www.joinclubhouse.com/on-community-moderation>. [Accessed 2 April 2021.]

14. S. Danna, *L'architetto Carlo Ratti: «Uffici Condivisi, Lezioni Online e Laboratori: O le Università Cambiano, o Molte Moriranno»* (Open, 22 May 2020).

15. Designtech Hub: <https://thedesign.tech/it/>.

16. Senseable City Lab: <https://senseable.mit.edu/>.

again by architect Ratti, on both the new university campus in Milan¹⁷ and Cornell Tech at Cornell University in Manhattan.¹⁸

On the project for a new university campus on the former Expo Milano 2015 site, and referring to the Cornell Tech experience, Ratti, again for *Open*, says that the Italian project is based “[...] on an idea of an university based more on encounters than on lectures: a free ground floor that allows lecturers and students to meet,” while, “[...] at Cornell Tech -the Cornell University campus on Roosevelt Island in Manhattan- the basic cell of the office is used not only by the lecturer but also by the students themselves. In Italy, and in Europe in general, the idea is still somewhat alien. It is actually very functional: if lecturers and students spend less time on campus, they can share spaces. A dynamic similar to what happens in offices.”¹⁹

Therefore, the city disrupts the margin between public and private, digital and analogical in the idea of continuity between virtual spaces and physical places, which however still continue to be interconnected. Ratti proposes an idea of a city which is not strictly “smart” and therefore passive, but “sensible”, evoking a double-meaning involving sensitivity and the senses themselves.²⁰ It’s a vision of a co-city based on data, which are nothing more than expressions of the needs and habits of the individual inhabitants, but also of the infrastructures that can be kept under control. In this context, data are a means of control and expression of common needs. While machines acquire data quickly and in large quantities, thus putting them at our service, human inhabitants of cities can use them as needed, to digitise and optimise interactions.

This vision is aligned with the approach of the 2018-2021 European project, *Sharing, Collaboration, Cooperation* (SCC), initiated by Cooperatives Europees and co-funded by Erasmus +, which, as Di Paolo summarises, “brings together co-working spaces, higher education institutions and innovation communities, with the overall aim of stimulating the development of collaborative spaces for innovation. In particular, it intends to support the co-working spaces transformation into ‘collaborative spaces’ capable of developing cross-sectoral and trans-national working methodologies thanks to the creation of ‘human’ communities and the use of advanced digital tools.”²¹

The concept shown represents the city as being participatory, inhabited and co-created in its interactions in indoor places as well as in the public and private networks, constituting a single interconnected reality dependent on the users’ needs. The latter then become active players in a scenario of co-collaboration between themselves and the whole of cities. In line with this tendency, it seems clear that in future workplaces, cultural venues and university classrooms will

17. A. Musillo, *Un Nuovo Campus Universitario a Milano Ripoterà in Vita l’area EX EXPO?* (Elle Decor, 17 December 2020).

18. Cornell Tech: <https://www.tech.cornell.edu/>.

19. Danna, *L’architetto Carlo Ratti: «Uffici Condivisi, Lezioni Online e Laboratori: O le Università Cambiano, o Molte Moriranno.»* 2020.

20. C. Ratti, *Carlo Ratti Talk @ iit—Senseable City.* (s.d.). Retrieved from: <https://www.youtube.com/watch?v=ELrPQyU1Sjw>. [Accessed 28 April 2021.]

21. D. Lampugnani, *Co-Economy. Un’analisi delle Forme Socio-Economiche Emergenti* (Milano: Feltrinelli, 2018).

have to become again the fulcrum for the activation and definition of resilient communities capable—after the physical interaction and the collective recognition—to also invest positively in their respective digital interface.

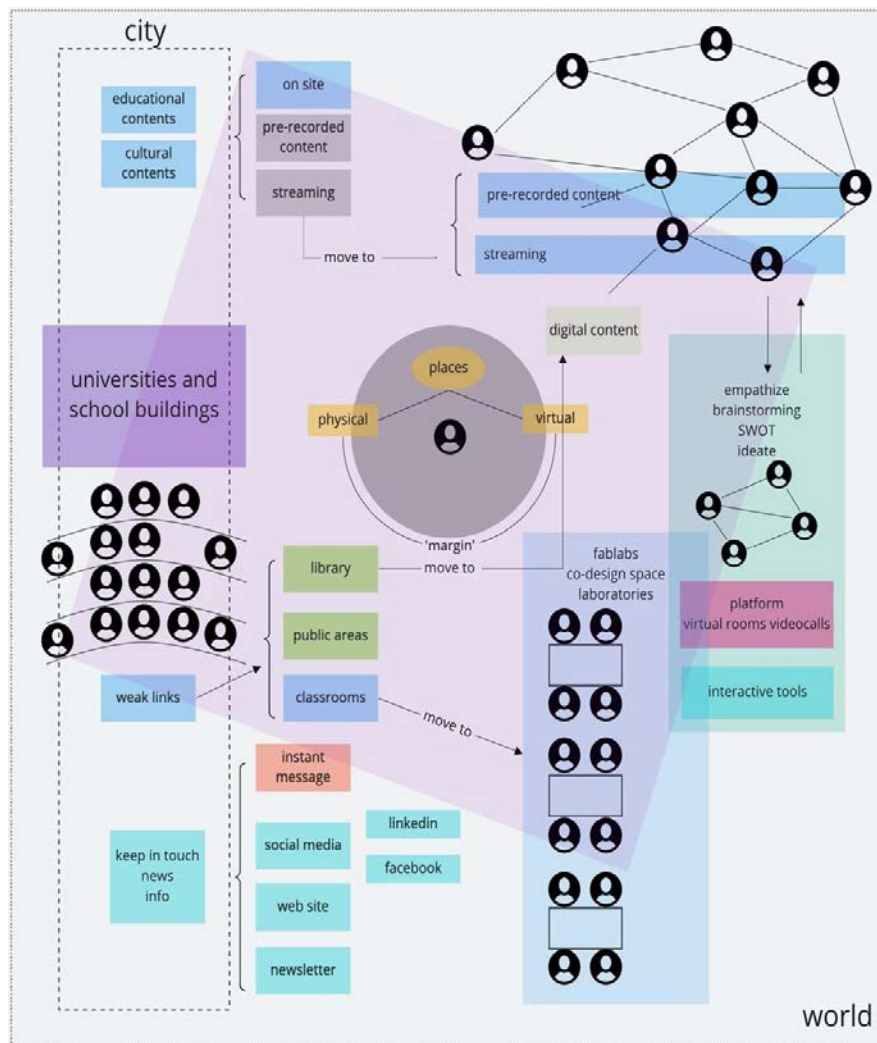


Figure 6. Education: Interactions-NET in POST-Covid ERA

Source: Morozzo, Delprino 2021.

So that the process is interactive and ripe, remote activities will need to be clearly identified as an extension and implementation of those in presence, building a strong relationship and a clear identity with university classrooms (Figure 6), the workplace (Figure 7) or the cultural buildings (Figure 8)—such as in museums, theatres, public squares. This will lead to a joint and progressive action on several levels working simultaneously both on the reduction of the digital division to the benefit of an inclusive and sustainable process of technologies at all levels and for all user groups, and on the conversion and reinterpretation of architecture and collective spaces in relation to their use.

The buildings of collective living and working will be steered towards reorganising their use for renewed modes of interaction, reasoning in terms of

collaboration and co-creation, useful for fostering those weak links on which group interaction and collective growth are based, rather than on individual or passive activities.

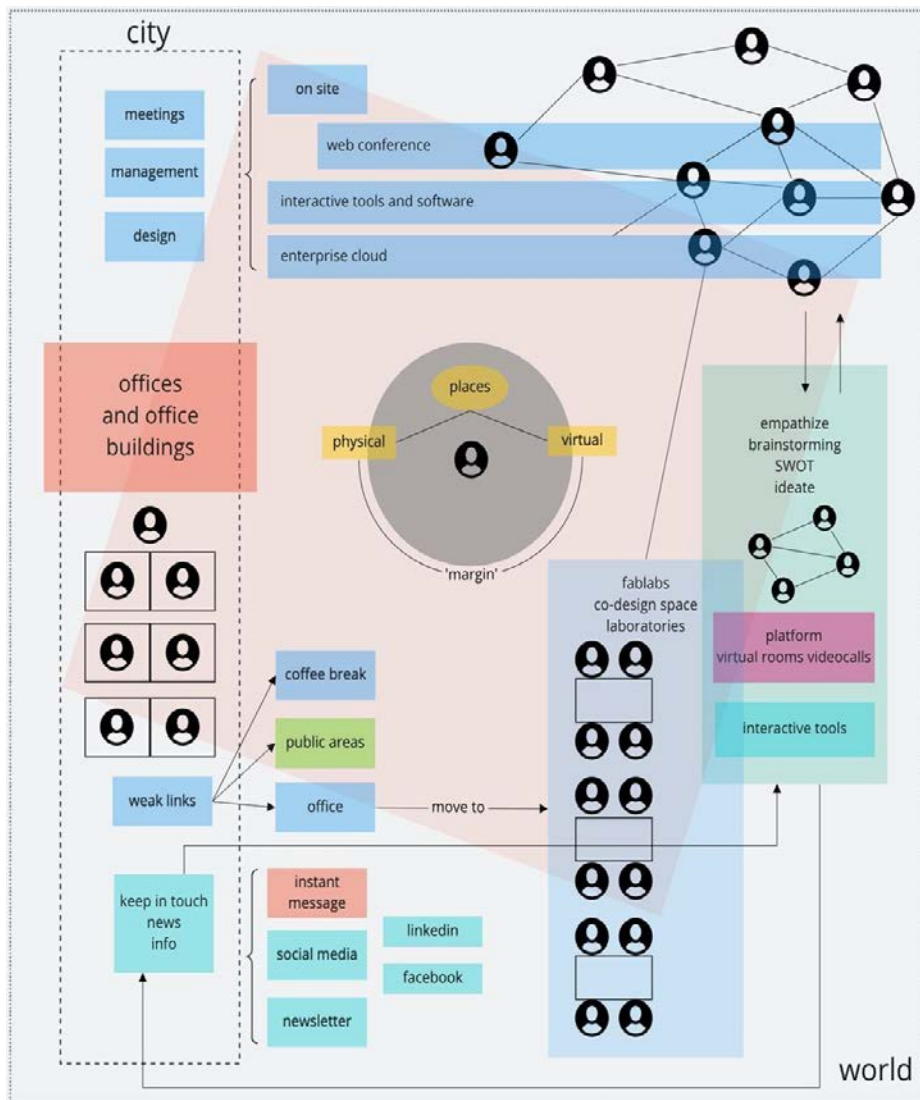


Figure 7. Work: Interactions-NET in POST-Covid ERA
 Source: Morozzo, Delprino 2021.

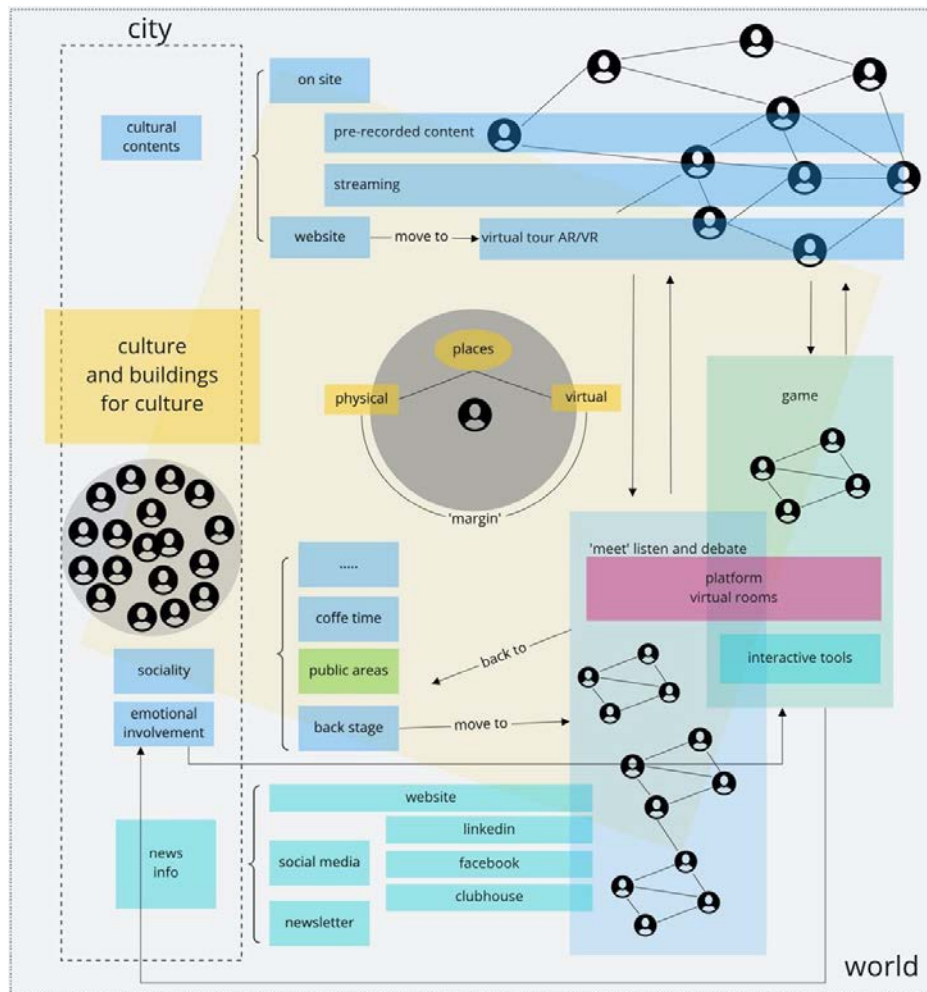


Figure 8. Culture: interactions-NET in POST-Covid ERA

Source: Morozzo, Delprino 2021.

In many scenarios the individual workstation, rather than the university classroom crowded with users, but lacking in relationships and exclusively relegated to the role of “distributor” of content, will benefit from existing experiences and will have to be redesigned with a renovated logic. This attitude will also involve a significant emotional aspect, since sharing will progressively replace the concept of possession, and this will have a significant impact on the users’ habits and *status quo*.

With reference to the traditional concept of the office, the notion of the hybrid workplace comes into play, i.e., “hybrid offices”, with a part of the employees in presence and a part connected remotely. Far from being a simple compromise adopted to temporarily cope with the health emergency, the hybrid workplace represents the present and, even more, the future of the office.²² The recent methods of interaction have given the opportunity to work, study, connect with

22. Il Sole 24 Ore Economia, *Lo Spazio di Lavoro Ibrido, da Soluzione d'emergenza a Vantaggio Strategico*. Retrieved from: <https://www.ilsole24ore.com/art/lo-spazio-lavoro-ibrido-soluzione-d-emergenza-vantaggio-strategico-ADz1mzOB>. [Accessed 2 April 2021.]

other users and have brought out new possibilities of inclusion as well as new difficulties.

In the near future, predicting a series of phygital systems and multiple modes of interaction according to the user's needs can allow the latter to break down the barriers that can be both physical and digital. Physical space can cause difficulties as the world of web platforms can if they are not optimized for the needs of various users. The continuity between the real office and the virtual office goes towards the elimination of this dichotomy, identifying an idea of a general phygital office that can be used from home, within a dedicated establishment, or in general, through a platform that allows you to work from a more suitable place for the user. However, this possibility of integrating one's office into the home space should also be optimized thanks to a characterization of the online space and tools. In this way, defining an identity to the virtual space can help ease the interactions and restore value to the domestic environment perceived as such. In addition, the partial working environment integration within the perimeter of the domestic walls will open up new interpretations of interior architecture, stimulating functional distributive organisations to guarantee, even in the family context, the private and public spheres without interference or overlapping.

The American Institute of Architects based its annual survey of interior design²³ trends on the experience of 425 American architectural practices and on the requests received from their clients. Commenting on the data collected, Kermit Baker, chief economist of the organisation and researcher at the Harvard Joint Center for Housing Studies, illustrates how the experience of COVID-19 is already transforming the needs of contemporary living: "According to 68% of those interviewed, there has been an increase in requests for home offices, while 33% have reported a quest for more luminosity through balconies, solariums, porticos or verandas, intermediate spaces between the inside and the outside to be experienced all year long. Other key players in the post-Coronavirus home are 'filter zones' where any contaminated objects such as shoes or coats are isolated. And then, in the post-pandemic home trends, there is an increasing demand for multifunctional rooms, extra rooms to be transformed into studios, classrooms for distance learning, where to cultivate one's hobbies. Briefly, those might be described as spaces of one's own to enjoy while sharing the home with the whole family."²⁴ And, also with housemates or solely.

As well as changing the concept of home, the phenomenon of smart-working or the lone worker can lead to substantial changes in the entirely contemporary demand to "live in the centre", contributing to a redistribution of population density with positive results in many directions.

The "connected home", designed to accommodate both domestic and working life, is already proving to be an opportunity to alter living habits and repopulate

23. <http://info.aia.org/AIArchitect/2020/0911/aia-interactive/index.html#!>. [Accessed 2 April 2021.]

24. C. Amarillis, *La Pandemia sta Plasmando le Case e 450 Architetti Hanno Capito Come* (Elle Decor, 27 October 2020); AIA Home Design Trend Survey: <http://info.aia.org/AIArchitect/2020/0911/aia-interactive/index.html#!>. [Accessed 2 April 2021.]

sparsely populated villages, relieving metropolises of a density that is no longer sustainable.

A recent example is the Smart Village Santa Fiora. In Santa Fiora, a Tuscan village of 2,500 souls in the province of Grosseto, the focus has been put on repopulation, creating the first smart-working village in Italy, where homes are designed to combine family wellbeing and work requirements. Here, tourism overlaps and intertwines with remote working activities to contribute to the overall redevelopment of the village, with discounts on property rentals for those who decide to work remotely from this enchanting location.²⁵

Santa Fiora may be the first Italian initiative to move in this direction, but it will certainly not be the only one, and it has its roots in many other unconscious and far-sighted experiences conducted by Italian architects, such as the project for Colletta di Castelbianco, in Liguria, conceived by Giancarlo De Carlo at the end of the 1990s, giving digital technology, as well as architecture, a fundamental role in the recovery and rebirth of the forgotten village. With a sensitivity that distinguishes the master of architecture, De Carlo worked on the concept of the “diffuse hotel”²⁶ in Colletta di Castelbianco from the early stages. Here, he brings forward twenty years of burning issues into today’s debate, considering the chance of living or visiting a small town for short or long periods of time without sacrificing the cultural and information resources that the global village of telecommunications and information technology can make available everywhere as a winning weapon to be used effectively.

The concept of the centre thus seems to become relative to the person rather than to the urban agglomeration in itself, with the possibility of remote activities to be coordinated with those in presence. This makes it easier to move and maintain continuity among the different areas of a territory, and in general, in contacts among the diverse parts of the world, simultaneously with the objectives of technological development and digitalization of a multitude of areas and the possibility of remaining connected in a “digital net” and continuously for the user who lives there even temporarily.

This does not mean, however, that we should lose contact with the memory of places and with the past; on the contrary, the breaking of the margin between the physical and the digital can make us relive that memory and continually experience it. At the same time, they can give shape and application to this memory in the new possibilities of interaction and identity to be given to virtual places. Actually, the Internet is not a passive place, but exists thanks to algorithms which, although they can also work automatically, are created by humans who can use information to give an identity to the spaces we create for ourselves thanks to the possibilities of the web.

If W. Benjamin defines the aura as, “relating to the space-time factor, as well as to the concept of distance, of detachment, of non-approachability to the

25. Centritalianews.it, *Santa Fiora lancia lo Smart Working Village: Incentivi sull'affitto per i Lavoratori che Desiderano Trasferirsi nel Borgo Amiantino* (Centritalianews.it, 29 September 2020).

26. A. Romano, *Giancarlo De Carlo. Lo Spazio, Realtà del Vivere Insieme* (Turin: Testo & Immagine, 2001).

spectator,”²⁷ then as we relate to the workspace by shortening a distance, we can recover that kind of contact and that value of time and memory. On the contrary, it is even more possible to create a space dedicated to the memory, individuality and expression of a specific group thanks to the customisation of dedicated online platforms.

Co-working, co-design and social media platforms thus have the power to become true vehicles of creativity, preservation and creation of ideas, open and accessible to all thanks to their variety of interactions (digital and non-digital). This may appear as a path and an opportunity of inclusion and characterization of digital spaces in continuity with city hotspots.

Conclusion about a Sustainable Future for the City in Progress

Oki Sato interviewed for *Elle Decor* about the world to come offers us a deep and stimulating reflection:

“We can no longer go back to how we were, but change our way of living in both domestic and urban spaces. From now on, the functions will converge more and more, but differently with respect to the past,” Oki Sato warns. “I imagine a capillary city that stretches out in a homogeneous and inclusive way. And then I imagine, within this large surface, that all the functions it needs can be ‘moved’ and ‘assembled’ to give shape to a homogeneous vision, which does not exceed verticality.” He sees the new everyday life like this: efficient and widespread. “We are trees, with branches stretching to the sky and fruits that sweeten our life: we are about to enter an era without centrality and without hierarchy,” concludes Oki. “We will be ivy.”²⁸

Our “being ivy” leads us back immediately to the incipit of this essay. The ivy, by its infesting nature, marries an inferior collective imagination, while its pervasive and adaptable being impels us to overcome any stereotype in order to reach a positive interpretation that Sato himself summarizes in the two terms “efficient” and “widespread”.

If we refer the concept to the pervasiveness of digital technologies and phygital margin as a privileged place for the interaction between the physical and digital spheres, the ivy becomes a *status quo*, a way of being that matures with the city in progress.

An extending city beyond its physical borders, thanks to an inclusive and conscious use of digital, is a city capable of offering training, culture, services and work beyond its buildings by learning to migrate online content and activities without losing its identity. A city where the “anthropological dialogues”, that is the sharing of one’s individual biographies, take place through a digital acting as a “relational starter”, in order to produce that further motivation for the encounter which may develop in presence. In order to be “positively ivy”, cities, communities

27. E. Cristallini, “Lo Slittamento dell’aura nell’arte Contemporanea.” *Rivista di Estetica* 52 (2013): 27-31.

28. P. Carimati, *Il Mondo che Verrà, Disegnato da Quattro Firme Internazionali del Made in Italy* (Elle Decor, 31 May 2020).

and technological development need to make a generational leap to include some essential postulates in their near future.

The individual and the community need to broaden their “mental perimeter”, through a constant and continuous osmotic process between the individual, in his personal experience, and the culture, understood as a set of shared and participated in attitudes within the various human groups. The city and the buildings that characterize or represent it must not only embrace the concept of smart, but envisage a progress in which the margin becomes the second remote identity of services so that the latter can be used anywhere regardless of distance and defining a digital proximity of physical places through which they are provided.

Finally, digital innovation must necessarily pass through the need to establish models to integrate technologies and human-centered in an inclusive and scalable perspective. The development of the infosphere²⁹ must embrace the idea of designing new tools and interactions with them in order to give the user the opportunity to be active inside the relationship with the city and its inhabitants (in the way of interaction he prefers).

The positive effects will be undeniable and, as anticipated in the introduction to the essay, multiple and on several fronts:

- defining the margin with a phygital approach will help to recognize and maintain the memory of places even in their digital interface;
- distributing and relocating via digital rather than centralizing in physical places will help reduce or plan the access flows to the metropolis, the commuting and its resulting pollution;
- relocating some work activities will favour a reduction of urban overcrowding and will offer opportunities for rebirth in less inhabited areas;
- sharing cultural and educational opportunities also through the Web will widen the possible catchment area with the chance of including even the most fragile or disadvantaged categories.

A first step will allow us to define the world of tomorrow as more accessible and sustainable.³⁰

29. The infosphere theorized by Floridi in 2009 is linked to the concept of the fourth industrial revolution. A revolution intended as a revolution of being rather than of technologies and artificial intelligence where the infosphere is the information space of the digital age that involves all areas of life, posing unknown challenges. L. Floridi, *Pensare l'infosfera. La Filosofia Come Design Concettuale* (Milan: Raffaello Cortina Editore, 2020).

30. The essay is the result of a vision common to the authors, however: *Introduction, scientific debate and disciplinary approach, Method and debate focus and Conclusion about a sustainable future for the city in progress* are attributable to M. C. Morozzo della Rocca; *Psycho-anthropology, margin and inclusion* and *Psycho-anthropology and new models of inclusion through social media* to A. Bertirotti; *Pre-visions for new identities and interactions of public and private spaces* to F. Delprino.

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