

The Future Home for New Ways of Living And Sharing Community in Emergent Smart City. (Towards a “Good, Healthy and Sustainable Life” between Micro and Macro, Human-Technology and Sense Making)

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Abstract

This is the question from which to start the narration that leads us to reflect on what the city (macro-object) is (and where it goes) today, starting from the house (micro-object) and living (meso-dimension) in their recent and older transformations between: technology and society, environment and media, design and planning, living and use. Here we will try to conduct some short notes trying to highlight the junction points, by looking at the techno-social fault breaks between the industrial (and pre-industrial) and post-industrial global ages. A complex process that leads the house to evolve into the home and to be a structure, then a function (exclusive) and today perhaps a complex and articulated social form susceptible to sharing. A projection that is guiding us towards the transformations of smart cities and those emerging networks of new digital artisans in the fab-labs and clusters of urban makers who reconstruct the 16th century workshop-houses while being connected in dense social networks hybridized by co-working and co-housing oriented towards the co-generation of widespread creativity. We are in front of a jump of a paradigm in the sense proposed by Renè Thom some decades ago.

The 21st century gives us a paradigm shift as a "fault break" not so much in the technical-structural aspects as digital emerging world in the strict sense, but of the context frame in which the "house" first and then "dwelling" were consolidated daughters of a design rationalism and planning that had removed places, traditions, historicity, as well as a balanced relationship with nature and technology and which had turned away from the meaning of urban space and common or shared goods, under the banner of the imperatives of the production of mass and therefore of the houses-dwellings "of the masses". The current society of customization and personalization (albeit mass) of building artefacts (and their contexts) as well as other goods takes us towards a new (post) modernity which is represented by the globalized society where, moreover, urban, extra-urban and post-urban come to fusion and often to con-fusion. Therefore, living as a symbol of well-being is probably on the decline because the One Best Way of the "home for all" model is abandoned and therefore of the model of the uniform house and the best way to build it at the lowest cost coupled with the "claims of the right to home". Mythologies, mystics, and stories that have accompanied us so far seem to decline in favor of a "global" rethinking of the new models of living, deriving from new relationships with wealth and savings, strongly tested by the epochal crisis that we are perhaps overcoming. The new relationships with the environment must lead us to associate lower energy costs, passive houses and new services (individual and collective) such as social housing towards superior livability and well-being without adjectives. Furthermore, from the relationships with the emerging technologies of materials, from heavy to light, from energy consuming to energy saving up to intelligent energy, from the immobility to the mobility of the modules of the house itself that can be completely rebuilt, recycled or even transported, or made in 3D by re-coupling small and medium batches with customizational so through advanced technological-connective equipment (Wi-Fi, home automation) also to answer security and / or interaction questions. However, returning to the use of ancient materials such as lime or straw as well as photo-sensitive and/or energy-efficient colors. Finally, touching new social relationships between "residents" in search of multiple areas of socialization (of costs) and above all of hospitality and sociability for a full sharing of living in safe and healthy environments but also convivial where to learn from life together a new sense of community to include, expressing passions and emotions, to the urban and post-urban research of New Human Alliances for the Third Millennium.

1 – Which house to live in the 21st century in the transformation of the city?

This is the main question from which to start the narration that leads us to reflect on what the city (macro-object) is (and where it goes) today, starting from the house (micro-object) and living space (meso-dimension) in their

recent and older transformations between multidimensional, complex and interaction variables: technology and society, environment and media, design and planning, community life and use of space and time.

Here we will try to conduct some short notes without presumptions neither of exhaustiveness nor of completeness but simply trying to highlight the junction points, by looking at the techno-social fault breaks between the industrial (and pre-industrial) and post-industrial global ages¹. A complex process that leads the house to evolve into the home and to be a structure, then a function (exclusive) and today perhaps a complex and articulated social form susceptible to sharing. A projection that is accompanying us to the transformations of smart cities and those emerging networks of new digital artisans in the fab-labs and clusters of urban makers who reconstruct the 16th century workshop-houses while being connected in dense social networks hybridized by co-working and co-housing oriented towards the co-generation of widespread creativity in emergent urban ecology of value. We are in a large jump of a paradigm in the sense proposed by Rene Thom² in particular “after” the post pandemic SarsCov 2 are redesigning our urban life.

2 - The house: chameleon-like artifact in the fault break of the 21st century.

The house of the 21st century is still that of the 20th century, or from the 19th century? We can say no, because these last two centuries have given us a "house" that slips into the meaning of "home" as a logical link between internal and external structural variables ordered through the scientific approach of the calculation method. An approach that integrates parametric data, functional perimeters and precise behavioral hierarchies (sleeping, eating, resting, protecting and even "exhibiting", etc.) into a "structural, ergonomic and aesthetic" calculation that deals with the home as a mass product. Which is achieved with a constricting “*reductio ad unum*” within the "domestic walls" to enrich in the 20th century with a spatial planning and interior design with relative status and income symbols and some ethical-social "first injection" (environment, energy, new materials, etc.).

The 21st century gives us a paradigm shift as a "fault break" not so much in the technical-structural aspects as digital emerging world³ in the strict sense, but of the context frame in which the "house" first and then "dwelling" were consolidated daughters of a design rationalism and planning that had removed places, traditions, historicity, as well as a balanced relationship with nature and technology and which had turned away from the meaning of urban space and common or shared goods, under the banner of the imperatives of the production of mass and therefore of the houses-dwellings "of the masses". The current society of customization and personalization (albeit mass) of building artefacts (and their contexts) as well as other goods takes us towards a new (post) modernity which is represented by the globalized society where, moreover, urban, extra-urban and post-urban come to fusion and often to con-fusion. Therefore, living as a symbol of well-being is probably on the decline because the *One Best Way* of the "home for all" model is abandoned and therefore of the model of the uniform house and the best way to build it at the lowest cost coupled with the "claims of the right to home". Mythologies, mystics, and stories that have accompanied us so far seem to decline in favor of a "global" rethinking of the new models of living, deriving from new relationships with wealth and savings, strongly tested by the epochal crisis that we are perhaps overcoming. The new relationships with the environment must lead us to associate lower energy costs, passive houses and new services (individual and collective) such as social housing towards superior livability and well-being without adjectives. Furthermore, from the relationships with the emerging technologies of materials, from heavy to light, from energy consuming to energy saving up to intelligent energy, from the immobility to the mobility of the modules of the house itself that can be completely rebuilt, recycled or even transported, or made in 3D by re-coupling small and medium batches with customization also through advanced technological-connective equipment (Wi-Fi, home automation) also to answer security and/or interaction questions. However, returning to the use of ancient materials such as lime or straw as well as photosensitive and / or energy-efficient colors. Finally, touching new social relationships between "residents" in search of multiple

¹See Zygmunt Bauman (2006), *Globalization – The Human Consequences*; Columbia University Press. Bauman shows in this detailed history of globalization, “while human affairs now take place on a global scale, we are notable to direct events but we can only watch as boundaries, institutions, and loyalties shifts in rapid and unpredictable ways, creating a class of absentee landlord, globalization divide as much as it unites, creating an ever-widening gulf between the haves and the have-nots”.

²Renè Thom (1980), *Stabilità strutturale e morfogenesi. Saggio di una teoria generale dei modelli*, Milano, Einaudi, 3^a ed. 1985

³ Rullani F., Rullani E. (2017), “*Dentro la Rivoluzione Digitale*”, Giappichelli

areas of socialization (of costs) and above all of hospitality and sociability for a full sharing of living in safe and healthy environments but also convivial where to learn from life together a new sense of community to include, expressing passions and emotions, to the urban and post-urban research of New Alliances for the Third Millennium as Gianfranco Dioguardi(2007) and Federico Butera (2005) shines in a visionary form.

3 - The structural-functionalist crisis: from subjectivity to "collaborative living"

At the center of this paradigmatic leap, we find the subject in its individual (but no longer radically individualistic) and collective dimensions that appropriate a cultural perspective of living by reconstructing places for the living in ecologically sustainable environments, places that can accommodate a physical body in its own socially useful and welcoming interactionist dimension. In other words, towards a "collaborative living" that does not reduce individual freedoms to the mediation of conflicts but expands them in the potential of connectivity and interaction, adding value and not subtracting it. But this multifaceted and multidimensional subject takes on the responsibility of the partnership of (in) design of a culturally coherent and cohesive living, shared in a balanced relationship with the environment, technology, and the surrounding community, but also in a relationship with future generations which will be delivered the torch of sustainability considering the house traditionally considered as an investment with low turnover and poorly disposable in a sustainable and responsible way.

The architectural project - or rather design - becomes a malleable, flexible, adaptive frame that arises from the basis of the cultural choices of the "organized and collaborative and competent as well as aware subjects" who promote and implement it. The processing and technical instrumentation remains but is widely shared in the community of current and potential users. The house or dwelling as a "border" that has always protected the instinctual impulses of the "profound individual" and his dizziness and closures to be consumed unseen beyond the shutters or high hedges as tragic escapes from the meaning free a dwelling to search for new conditions of welcome and well-being, shared and collaborative. A living where self-destructive impulses allow themselves to be dominated by collaborative intelligence and the challenges of sharing in variety to explode new ideas and design new contexts capable of reconnecting creativity and knowledge and where also to take care of others in proximity, producing meaning.

Here we find a search for living as an end but also as a mean towards a more advanced alliance between "design (project) and nature", between "abstract and concrete", between "individual and community" to explore new dynamic relationships of space-time as an incessant reconstruction of an adaptive habitat that safeguards variety by projecting it into the construction of higher quality contexts, structural, relational, and environmental as we have seen in biology (Capra, 1996). But for this we need new "collaborative" skills of building (with the direct and indirect user) and new regulatory tools where the experimental culture we need can be deposited and act with determination in defense of the landscape, artistic beauties, beaches as well as assets, cultural and historical, of the soil - as well as of the interior spaces - which nourish that well-being without adjectives that we must all try to achieve together. Because the spatiality of living, according to recent analyses, becomes a problem of position in a more complex and broader, interconnected, and situational space that modulates time, identity and belonging of a continuously transformed and mobile singularity that is no longer represented in a simple artifact physical but in an expression of the self of those who inhabit that space and make it alive⁴. So much so that it can be said that living is no longer an experience of status connected to the residence and the social recognition of the same but rather an aesthetic and intimate experience where the linearity between wake-sleep, with the rites of appetite, with the needs of hygiene and with the enjoyment of the evening shows in front of the TV evolve into a complex and articulated cycle of interactions that radically changes the map of the living spaces. It collapses and expands them coherently with the differentiated impulses to sociality or solitude as new diaphragms that put us in relation with the outside world in dynamic and osmotic forms where many barriers of the 20th century house seem to transform from the structure to the perceptions to the expressions. Bedrooms and bathrooms open, living rooms and kitchens merge, balconies, terraces and gardens modulate for new symbiosis between inside and outside, between public

⁴See Cino Zucchi of the CZA in the 13th *Biennale Architettura of Venice* proposed idea that formal culture propagate following contagious line of diffusion combining imitation and innovation, creating sequences of manufactures interconnected by simple variations on a share theme or subject where similarity more than originality favourite dialogue among human-being in the city as in a home (Bazzo, 2012).

and private, between individual and community in an emerging biotope of fluid, mobile and flexible living, increasingly integrated between connectivity, sociality and safety.

4 - The social transformations of living: between emerging relational needs, individualization, and sustainability

Strictly structural-functional housing models of the 1900s that clearly separated interior-exterior, public-private, individual-community leave room for more open and interconnected, porous and permeable models. This transformation reflects the (always unfinished) exit from mass industrial society towards an emerging society of knowledge with a strong personalization of contexts through interconnection, in which there is a growing demand for relationality and therefore for cognitive (and connective) productivity, where the encounter with the other prevails over strictly individual needs. The centrality of the family and the individual in the "housing shell" gives way to relationships and interaction with the outside, transforming the functional fixities that those family-individual roles had consolidated. Both for the social changes of the family (role of women, increasing average education rate, strong tourist and work nomadism) and for the technological injections that have changed the domestic experience (from cleaning, to cooking, to security, to connectivity) along with a continuous renewal of technical and relational resources. These resources have led to an increase in "efficiency" and "quality" of domestic routines, freeing up time for creativity and idleness, in general for new behaviors, tastes and vocations, revolutionizing ancient models of consumption and use of the living space through a new experience of individual-collective experience. So much to implode the historical relationship between home and family, jamming its "sunken" functions in the last 200 years between offspring, status projections, parent-child hierarchies, male-female dominance, elderly-young relationships. Hence a radical (mono-multi-cellular) fragmentation of family relationships and consequently the emergence of new forms of coexistence (singles, couples without children, separated, cohabiting, groups of friends, elderly people alone, families or individuals with disabilities, etc.).

New affective and emotional dynamics arise between *de-fragmentation* and insecurity, and the sociability of human relationships with strong situational disruption of the experience of living and related deviations. The old model of living is no longer able to account for this disarticulation and needs to be renewed to accommodate and contain new visions and emerging needs, such as social housing and co-housing, begin to develop albeit still in a fragmented mode. A radical cultural leap and new modes of regulation and standardization would be needed before these epochal transformations of living and their instability. Of course, no balance can be found by emphasizing the distances between *intra-moenia* (reassuring) and *extra-moenia* (threatening) of living simply by erecting higher security barriers and by locking entrances and accesses and/or recording all intrusions. Instead, trying to work on neighborhood and/or street logic, thus sharing information, knowledge and rules of use, sharing the experience of living for a shared governance of its forms "against" an excessively rigid and regulatory "government" individualizing. Towards a different way of composing the puzzle of everyday life starting from the role of women, no longer healers of the home, but engaged in the labor markets, from a superior balance of couples in domestic work towards a hybridization of domestic spaces, as elderly people with a longer life expectancy and therefore for renewable living spaces and not nailed to the memory of a past time (family and/or professional). As well as for the extended family that needs spatial mobility of internal and external contexts.

The rigidly functional and hierarchical spaces that had consolidated ancient skills and roles in a precise order dissolve into more mobile and transit spaces for a "liquid" living (*à la* Bauman)⁵ apparently more disordered and creative, consistent with highly fragmented logic and work schedules. The old functional hierarchy of domestic spaces with their ancient rites, prohibitions, customs and ceremonies is now completely decomposed and rearticulated in the search for new languages of living, for new relational, communicative and emotional languages which are alive and fluid. Lunches and dinners are no longer punctuated by a one-dimensional time around the dining room table or in the most recent modernity around the sofa in front of the television, because everything is "casual, messy, fragmented" and requires new narratives of living together. Hence living either becomes capable of creative self-organization or ignites conflicts and leaks of some components towards new solitudes but also in favor of new socialites, actual and potential.

⁵BaumanZ. (2000) , *Liquid Modernity*; Polity Pr

TV in the 1960s had changed the old spatial hierarchy by extension, attenuating the greater rigidity of domestic and family roles but it was a "partly illusory change" disguised in the triangulation with an analog medium first and then virtual that did not substantially shift as much as it first happened around the dining table (male and father centrality) and now it happens around the living room sofa, contended first by TV channels and in the last 10 years by social media. The changes triggered by the "replacement" of TV with the Internet and the various telematic devices (PC, Tablet and smart phone) are more profound. The latter forces a remixing of domestic spaces for a strong individualization effect of use. Parents on the living room sofa and children and grandchildren in their inaccessible bedrooms. Because each of these devices needs its own individualizing spaces of use that alters the dislocation of traditional spaces by "emptying" the regulatory role of the kitchen first with family meals and then with the TV, virtually reunited only by the local Internet network.

The deconstruction of the domestic space is started and completed where the previous functional subdivision tends to "protect" the privacy of the various "inhabitants" in a sort of exaptation: born in the past for one purpose, they carry out another in the present. Domestic social relationships under the hammer of technological equipment then become "point-like" where interpersonal relationships are replaced first by the attraction to the TV screen for expression of consent or dissent and then by digital devices that "decentralize" usability towards isolation from the domestic context and from everyday life: from the mono-focality of the TV screen to the individualized multifocality of the screen of a PC or non-PC device. Leading the "users" towards a highly individualized and therefore "empty" mediation from a direct relational point of view with the family group, but in general with the group to which they belong. And yet the Wi-Fi networks manage to introduce a channel of reduction, albeit a tendential one, in which the inequalities of access to the resources "contained" by living, certainly not sufficient but indicating some possible solutions, for example with broader and more widespread bandwidth than in Italy are struggling to consolidate despite the 4 and 5G promoted in prime time on large and small screens.

The examples of kitchen and bathroom are emblematic and analyzed by multiple works of analysis. The kitchen is transformed in depth in its skills through multiple devices for cooking that automate the traditional logic of "knowing how to cook" through a primary robotization of the "containers" as with the BIMBY, microwave ovens, standard ovens, blenders, centrifuges with strong healthy transformation of the content. A content that, however, escapes more and more the control of the actor-cook, replaced by the coordination of devices whose simple final performance can be controlled, even by ordering meals with Deliveroo or others. With a shift from traditional skills allowed by physical productivity to a "cognitive" type for the use of systematic digital devices. The centrality of the kitchen is lost in favor of the living room where to carry out the other activities but in fact it merges with this, expanding into a multifunctional space. Ancient gestures and the governance of space follow increasingly "industrial and mechanical" logic, entrusting technology to control the state of the final performance, even partially delegated to the outside. So it is for the bathroom that has been transformed into a place for the well-being of the body with all the various technologies adopted for this purpose (hydromassage, body perfumers, peeling / waxing device, sauna, etc.). All oriented to the care of the body and its narcissistic seduction. Hence an "expansion" of the bathroom space towards a fusion with the bedroom and the surrounding spaces. Two environments that have profoundly changed their traditional functions.

"Workshop" examples that signal the need for a profound redesign of the domestic space to grasp its radical customization potential that users push ever further forward, redesign that designers pursue. Hence the increasingly widespread use of open spaces and loft concepts for open and large spaces as well as in the experiences of urban recovery of old industrial factories. A redesign that therefore places the domestic interior at the center on the outside in the name of flexibility, mobility and transparency of the changes that can be activated by the end users themselves. A process that signals the importance of culture over function and that exhumes the same category of form as a malleable tool to be adapted and contextualized with users, as the case of bio-architecture and green building clearly show in the research and creation of healthy and natural forms.

The technology is then projected into the telematic home (beyond home automation) - which is in fact a co-robot (a collaborative robot) - where the functionality definitively replaces the functions and the living loses its traditional "manual and materiality" of the direct contact to make room for the electronic intermediary and networks of intelligent sensors (eye, ear, heat, movement, etc.) that perceive and manage the on/off regulation functions etc. Here living then stimulates a new man-machine relationship and new ways of using the spaces that merge and open to the understanding of the potential expressed by the inhabitant, -to his needs for meaning and

livability, of well-being without adjectives, of creativity. In short, the picture of a smart home is configured in the dynamic picture of smart cities.

It is these potentials of living towards radical personalization and customization that we must look at to understand the demands of tomorrow for today's spaces! From this point of view, architecture and design must be able to re-couple in the search for new syntheses starting from a closer relationship with users to grasp their deeper emotional experiences and starting from that reorganize and rethink spaces, objects and functions. Architects, surveyors or urban planners among the different designers of today who are naturally more in contact with the contexts of use and their users and who are more projected to build bridges between past and future with the multidimensionality of their professional experience, due to the proximity to the user and for the knowledge of environmental and architectural constraints, will be forced to make strong cultural to grasp and enhance those emerging potentials and translate them into well-being for themselves and for the environment and for the molecular contexts of life and work, relationships and communication towards new shared creativities.

Faced with the fractures and faults of current transformations including the dramatic inequalities of access to home-resources, we therefore need new alliances between: public and private, individual and community, technology and nature. Oriented towards an emerging (post)-urbanism and a desirable more advanced humanism of sharing in increasingly livable spaces, internal and external, changed by greenery and by sustainable technologies and materials and certainly with the urgent recovery of the suburbs.

5 - New urban planning between Big Data and Artificial Intelligence: the prevention of ecological disasters between environmental treatments, climate change, and innovative materials

The dramatic events of climate change in USA or Europe as in South East Asia in last five years that devastated entire regions from North to South with tragic results of lost human lives bring us to a serious reflection on the care and practice of regeneration of our territories (rivers, seas, mountains, pollution). Fragile eco-systems that require maintenance and medium-long term investments in an advanced planning framework. By making systematic use of information and knowledge integrated with Big-Data and Artificial Intelligence for advanced simulations of the interdependencies between physical (geo-climatic), material / intangible, demographic, environmental (on built and constructible) and economic (from structures to functions) data. Paying structural attention to the way of building (and certainly banning definitively the building amnesties), that is to the forms and methods of planning our urban and architectural future - which is above all human, social and ethical - taking into account the environmental and hydro-geological dimension and the impact of climate change on the demographic and techno-economic development. Considering that the perception of hydro-geological risk has gone from 36% to 67% in 10 years. Also, a function of a theory of amnesties which in the last 30 years has exposed the territory to widespread fragility in the total absence of appropriate checks and controls by a Public Administration, which is inefficient (and often corrupt) as it is sensitive to consent. The answers will have to block land consumption, reducing waterproofed surfaces, spreading green in our cities, bringing back urban gardens and vegetable gardens (horizontal and vertical), and possibly urban woods wherever possible. Because we must first go back to breathing by reading the inextricable link between physical (and mental) health with the health of the environment, building less and better, also using new, healthy materials (such as wood, straw, lime, rare earths), exploring the possibilities of nanomaterials such as graphene or carbon derivatives within new trajectories of shared living. Using recyclable materials with low environmental impact, to be used in the design of modular buildings that can be disassembled and rebuilt in other places within a circular process where *"nothing is created and nothing is destroyed, but everything is transformed"* (by Antoine-Laurent Lavoisier in 1767).

From a planning point of view, we need to look less at the past (with low-turnover and heavy structures, mainly in concrete) and much more at the future to take into account the interdependent impact between "light" construction methods, climate change and demographic dynamics, between new ways of living and (community) lifestyles connected with high mobility and fast transport and accepting the challenges of the "light" economy of services and knowledge.

6 - Planning, quality and information for creative cities and territories

Let's start again, first from the changes in living and from the life cycles of urban structures with low turnover, up to the radical functional and consumption transformations that this long crisis confirms. Processes that have radically changed the very historical functions of the construction sector (providing low-cost housing) well beyond the traps of financial income which has not provided the lever for relaunching it but rather for downsizing. The keywords are known and are the following: reduction of land consumption, urban regeneration, reuse of abandoned areas, mending and grafting, accessibility and sharing of (eco) urban resources, revitalization of urban agriculture and peri-agricultural town planning. In general, the reduction of the constructible ("external") and revisiting of the built ("internal") according to the logic of urban regeneration, reuse, mending, feeding and safeguarding green areas. It is a transition from physical, volumetric and quantitative logics to qualitative, immaterial logics and - we could say - of building "degrowth" and maintenance-sustainable re-growth, towards new joint quality of life and work of living. Where it is required, precisely, to rebuild less and better, renewing the existing heritage and regenerating it in an integrated eco-systemic key to relaunch building in a widespread and new way, structurally coupled with large and widespread urban green.

Secondly, not looking at purely patrimonial logics, ancillary to finance, in favor of emerging income trajectories connected to a complex reinterpretation of urban functions that can no longer be located within a limited and linear city space that has separated center and suburbs, cities and territories, urban area and agricultural areas, public and private, plains and mountains. But a space that becomes an active place available to the living and that is projected in their dynamic and harmonious reunion to offer well-being and quality, moving the same boundary between property and use. Towards a new connective tissue of an expanded city of a vast area far beyond the nineteenth-century walls, but also beyond the modern walls of fast and flowing ring roads for increasing logics of accessibility, interdependence and integration of urban and extra-urban resources in the inclusion of the minor cost and for a widespread well-being that connects individual to environmental health, looking at the next generations and the future in open innovation trajectories as social innovation (Chesbrough, 2012)⁶.

Thirdly, the methods of intervention that we find in Renzo Piano's approaches to "*urban regeneration*" or in Cino Zucchi's "*Grafts*" shown at the 2015 Venice Biennale, which interprets this dynamic transformation of urban spaces into "places for the living" second resilient forces to resist environmental, economic, demographic and climatic shocks with rapid transitions from the nineteenth-twentieth century "fossil" city to a biological, sustainable and smart one.

Fourthly, we are witnessing new *scalar densification effects* (information, mobility, education, business, security, connectivity, etc.) of an emerging Social Smart City, which is not only technological but accessible, integrated and interactive, inclusive and cohesive. Finally, we are witnessing the emergence of a city of a vast area that in the social variety, of languages and lifestyles strengthens and mends old industrial vocations and renews them with new services and new knowledge in the variety of plural ties between cities and territories, between fine craftsmanship and neo-manufacturing, between polycentrism and multidimensionality of 4.0 services, between research and social innovation (makers, fab-labs, start-ups). In short, we are witnessing an emerging poly-urban connective tissue towards multi-local engines of a future city that today we see only in a nutshell but that is growing and that will be able to consolidate and fortify if we change the design methods with a strong and radical attention to the environment and a superior sharing in its realization also using the new databases and integrating Big data and Artificial Intelligence along a trajectory also designed by Drucker (1986).

We will then have to think about the qualities of urban contexts and the regeneration of variety to relaunch widespread creativity, intelligent collaboration and vertical social mobility that has stopped since the 1990s, but taking into account environmental constraints and climatic transitions underway, anticipating and bending them into opportunities.

It is therefore a question of working on updating urban contexts conducive to widespread creativity, in companies, clusters or districts, looking at a regional and / or multiregional scale⁷. In the planning of cities (metropolitan or

⁶ See also Pilotti L. (1984), *Mutazioni tecnologiche e catastrofi: verso un modello di cambiamento discontinuo*; *Economia e Politica Industriale*, Università Bocconi pp.123-157;

⁷ Pilotti L. (2017), *Produttività cognitiva e politiche industriali locali*; Edizioni Accademiche Italiane EAI, Berlin; Pilotti L. (2019), *Organizzazioni Emotive (Creative e intelligenti)*; McGraw Hill Italia; Pilotti L. (2011), *Creatività, innovazione e territorio – Ecosistemi del Valore per la Competizione Globale*; a cura di, Il Mulino, Bo; Pilotti L., Micheletti A. (2020), "Organization vs. Strategy towards Rethinking Management for Trajectories of Resilience in World Pandemic post-Crisis" ;

not), the coexistence of diversities must be considered - activating it. For example, between "popular" and middle-class neighborhoods - such as in Berlin in Rotterdam or Paris and Barcelona - as well as between plural activities, for example between services and residence, fine craftsmanship and entertainment, between universities, research spin-offs, start-up and laboratories, between green, digital and built. Looking for new and emergent experience interaction between city, hills, and mountain.

All this to raise the eco-systemic quality of the share capital with targeted training investments and localization of new valuable services aimed at young professionals and / or new professions from media to ITC, from biotech to new materials. This will increase the potential and the widespread ability to generate new externalities that can be appropriated by young entrepreneurs and new businesses model, even better if accompanied by incentives for female entrepreneurship.

Social cohesion "from above", fueled by self-containment, as in the industrial districts of Lombardy or Lumezzane (in Brescia province), to give examples from Northern Italy, held up if the (technical) knowledge remained within the traditional local perimeter. The exploratory search for new technical frontiers and industrial innovation inevitably made it necessary to raise the threshold of quality with a stronger social cohesion from below and horizontal, inclusive, with new ways of living and producing lighter, more sustainable and livable, more accessible. Building sustainable post-urban ecologies of values: innovative sources of creativity starting from dense, livable, creative, mobile cities. Therefore, it is necessary to enhance human capital with training investments (in medium and high training) to dynamically raise the quality of products and processes by thickening the urban relational fabric and therefore soliciting an eco-systemic self-organization capable of generating those externalities that make new talents blossom and widespread innovation for long networks and not for simple contiguity and proximity. A trajectory of fundamental importance, in a large gym of micro-entrepreneurship such as the Italian one which trains and grafts new skills on the traditional ones that incentivize cross-fertilization towards a new integrated manufacturing with new services for growth in network or supply chain. Having more fungible and flexible urban structures capable of promoting contamination and hybridization. This is the main way to reap the advantages of the knowledge economy that leverages on synergistic relationships between multi-district and urban areas that can expand a differentiated technical and cognitive division of work between companies, institutions and research centers on a planetary basis by renewing their identities and strengths in the crucible of post-urban growth by hybridation and contamination of multiple industry creating new infant sector and increasing division of labour between firms.

Policy makers with designers and builders will have to take this into account for resilient and sustainable cities towards a more responsible use of material / intangible resources and superior environmental care, with access to information and knowledge by integrating Big Data and artificial intelligence for simulation strategies suitable for building the future.

7 - On the relationship between city and countryside, between history and modernity: what new balance between *Half Hearth and Shared Planet* for which contemporary city? Almost a conclusion

Two data must be interfaced to understand which city and which countryside we would like for a sustainable life and in what relationship.

In the United Nations periodical *World Urbanization Prospects*, 68% of the world population in 2050 will live in cities. On the other hand, 98% of the earth's surface is not occupied by cities but by the non-urban, which is very large and goes from the countryside to the hills to the mountains, from deserts and tundra to permafrost to the sea and lakes. A huge and rather differentiated space ranging from lands (or parks) protected for nature conservation, to land dedicated to intensive and non-intensive agriculture, to fruit and vegetable or wood plantations, to large robotic farms, but also to large centers of Data Storage and bio-genetic engineering or AI. All activities that are carried out in support of what happens in cities (medium and large) and without which urban life could not develop through concentration, specialization and technical, social and cognitive division of work. But we deal too little with this, looking almost exclusively at the city and ancillary activities dedicated to them. It is now clear - according to Rem Koolhaas, one of the major contemporary architects and urban planners - that sustainable

development and respect for nature or environmental conservation require a different and more balanced relationship between city and countryside in the interest of both entities. Urbanization cannot be the only development model and any forecast that confirms that trajectory would turn out to be partial and wrong. Although the reasons for this great push towards urbanization that accompanies the recent (and less recent) history of man are fully known and understood: access to basic life services, higher wages, accessibility to education, exercise of citizenship, protection of offspring and family, etc.

Science today is divided into two great perspectives: *Half Hearth and Shared Planet*. The first emphasizes the clear separation between areas of uncontaminated nature and spaces inhabited and modified by man, where city and urbanized and man-made countryside are brought together. The second emphasizes the possibility of greater integration between these two great spheres of life, on which the survival of both depends. In the second, we are more aware that what happens in one and the other sphere are in any case integrated and that their interdependent nature must be understood and recomposed, putting our hands on our traditional ways of doing industry, agriculture and services, of urbanization and environmental protection⁸ as we see in biology and knowledge explored also by neuroscience⁹.

The urbanized sphere must consider the effects of its own development, the quality of the same, on the other sphere, because these effects are no longer separable even in the unrealistic hypothesis of clearly separating the urbanized and non-urbanized part. And these effects are there for all to see, both with Global Warming and with the covid-19 epidemic that we experienced in 2020 and which will extend its economic, social and human effects for many years, especially if we do not know how to use the technologies available are better and we will not limit CO2 emissions. The reference to the land, to the ancient villages and to agricultural activities regenerated by new digital technologies of the Italian and European case by young people is a sign of hope in this direction that may be able to redraw those boundaries that we mentioned above between the anthropized sphere and not anthropized. In this way, subtracting the countryside from a residual and sometimes even romantic vision but subjected to the city in an immobile fixity.

Instead, we live in an increasingly inextricably interconnected reality that must be valued in respect of nature and living beings of which man is only one of the components and perhaps not even the most essential.

The last Architecture Biennale of 2021 in Venice offers us glimpses to better understand what (and how) the contemporary city will be and in the words of one of its great interpreters such as Rafael Moneo we find a path and an identity of the emerging city with the challenges of modern architecture. High challenges that this architect shows to pour in a cross between new models of living there through sharing to get to the redefinition of disciplinary boundaries that show to open up to a new modernist poetics of existence that we find in some of his recent projects that work on light and of complex functional transformations such as in the Museum of Roman Art in Merida or the extension of the Prado in Madrid, or in the Cathedral of Los Angeles, rather than in the Science Building of Columbia University in New York or with the Palazzo del Cinema in Venice. So "*How to live together?*" for R. Moneo hinges in the category of sharing, of resources, cultures, languages that are built harmoniously and osmotically around the sense of freedom and autonomy of individuals and communities up to regions and entire countries that operate through large social bodies and - we could say - of that shared imagination that fuels a formidable intelligent collaboration of the city. Man's journey has always been inspired by the construction of places to live together in peace and enjoying the beauty of which man and nature are capable if they seek balanced forms of coexistence but also by experiencing conflict and exploring sustainable solutions in space-time from Athenian villages in Greece to megacities.

The issue then is which organization for which path "beyond" demographic, gender, economic, environmental and health conflicts?

Rafael Moneo's request is to start again from the basic categories of a humanity on its way from its origins and from the city of origins from the thresholds of scale to intelligibility, from the lack of specialization to the

⁸Weaver (1948) describe these processes in a seminal work of 60 years ago

⁹David Eagleman (2020), *Livewired – The insides Story of the Ever-Changing Brain*; Canongate, UK; Khaneman Daniel, Sibony Olivier and Sustain Cass R. (2021), "*Noise: a defect of reasoning*", William Collins; Judea Pearl, Dana Mackenzie (2018), *The Book of Why: The New Science of Cause and Effect*, may, Basic Book, Hachette Book Group; Maturana H., Varela F. (1987), *The tree of knowledge*; Boston: Shambhala; Morin Edgar (1977, 2006), *La Methode I - VI*; Seuil, Paris

trajectories of modern sciences beyond the Enlightenment with the great technological leap of the Industrial revolutions. The legacy of the ancient city and in the post-pandemic seems to signal the urgency of a return to inter-functionality, to multi-specialization and to push the strength of variety - between culture and traditions, between codification-tangibility (decontextualization) and tangibility-intangibility (contextualization) - which ignite innovation processes by revitalizing urban fabrics, creating a web of dense and repeated exchanges between the principle of individuation and cohesion.

A passage that allows us to go “beyond” the specialized divisions of the modern industrial and commercial city between residential districts and administrative districts, between centers and suburbs, between city and countryside. Cities must rediscover integration and osmosis - according to Moneo - by reintegrating with the environment (natural and artificial), creating osmotically dynamic and open functions with grafts and crossings between ancient and modern, between curved and linear. So with an architecture capable of pushing the expansion of the scale beyond the single object, the single building or even the single neighborhood with new interweaving of mobility and functionalities towards new protean and/or anthropomorphic ways of integration that do not erase history but enhance it reviving it, renewing its architectural and functional language as well as creative and imaginative.

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