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Introduction

“We shall be in serious trouble, if we do not take seriously the fact that we are constructing the new physical and intellectual environments that will be inhabited by future generations.”¹

Luciano Floridi

“Place is an organized world of meaning.”²

Yi-Fu Tuan

If I would start this publication by arguing that the world around us is changing in rather fundamental ways and would continue to conclude that one indisputable consequence is that our built environment will or should change accordingly, probably not many of us will be deeply surprised. If I would add thereafter that our homes should be part of that change, probably many though will be surprised. Where it concerns our housing – and our homes – we experience what Edward Casey referred to while defining the home as a “*paradoxical entity*”³. The fact that we need some form of shelter, protection, and privacy is for centuries now answered by envisioning and creating a built environment that provides houses – houses that in time can or should become a home. At the same time, a home is a condensed world; all that we experience inside and outside our home is re-experienced within this home, making it close to the center of our existence. Our house still is our address; however, we connect to a place that increasingly “synchronizes” with our identity since everything we do within the boundaries of our homes becomes more and more transparent, despite, by now, outdated forms of legal protection. Our homes have become the private space we can no

¹Floridi, L. (2014). *the 4th Revolution*. Oxford University Press.

²Tuan, Y.-F. and S. H. (2001). *Space and Place: The Perspective of Experience* (1997th ed.). Univ Of Minnesota Press. (p.179)

³Casey, E. (n.d.). *The Fate of Place: A Philosophical History*. Centennial Books.

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longer trust to be private; we retreat from public space in what is legally supposed as well as defined to be private, protected, and uncontrolled. Next, with the rapid increase of the Internet of Things/People, we are agent/participant in a networked world; in an environment that is – and above all rapidly becomes – no longer inert but sensorial, i.e., that can “see” and can “listen” – briefly, one that acts as an interface. We can answer this development by ignoring, by redefining its principles, and/or by acting to renegotiate our place and – spatial – privacy that cannot be excluded or separated as yet from its framing built environment. If we take our dwelling, i.e., our being at peace in a certain place and time, serious, we need to reclaim our role in designing and realizing the framework for a most valuable item in our life, i.e., the home. As so adequately put by Alberto Perez-Gomez: *“In order to address life as lived (..) architecture must create appropriate transformative atmospheres accommodating habit as well as bringing about productive (poetic and ethical) change”*⁴.

These texts, therefore, will follow two main guidelines:

- In what ways can the principles/means that realize our housing be adapted to a more democratic and participative system?
- What is the role/position of technologies concerning our dwelling and housing in a hybrid networked world?

When, back in 1980, Jacques Ellul argued that *“He (i.e. man, mp.) now is situated in a new, artificial environment. He no longer lives in touch with the realities of the earth and the water, but with the realities of the instruments and objects forming the totality of his environment,”*⁵ he could not yet refer to our contemporary “artificial environment,” but arguing that he was ahead of the developments now seems an understatement. It is precisely the totality of the environment – natural as well as artificial – that should be the point-of-leave for envisioning what our housing should be(come), what it should represent, and what it should incorporate. Rethinking this is inclusive of rethinking the world in which we envision our life: what does it mean to have a home in a networked world? Is it still the entity we experience for centuries now, or is life in a networked world – hence including our home – fundamentally different from what we know? Is it humans that remain inert while his/her surroundings become “active”? Our traditional system of providing

⁴Perez-Gomez, A. (2016). *Attunement, Architectural meaning after the crisis of modern science*. MIT Press.

⁵Ellul, J. (1980). *the Technological System*. Continuum.

housing is one disconnected from its inhabitants/users, while, at the same time, this house – as a framework for our home – is one of the most important prerequisites in our life; we need a certain amount of private space to be able to act in public space. From there, we retreat back into our homes to experience lived space, but at the same time, “*A house constitutes a body of images that give mankind proofs or illusions of stability,*”⁶ according to Gaston Bachelard.

Today, it is that “illusion of stability” that should remind us of the – by now false/outdated – guarantee that our home is a safe and uncontrolled private space, meaning that we can either reinstall what has been agreed upon when it was destined to be safe and unwatched or rethink connotation and place. I believe we should concentrate on the latter since I am convinced of the necessity to think our dwelling – and therefore our home – not only within the context of space but also of our time.

A “Foreword” (by Kas Oosterhuis) will, after the inescapable Chapter 2, “**Acknowledgments**” precede the an overall Chapter 3: “**Introduction**” which obviously will try to provide the appropriate background of the issues involved and a direction of further content. Chapter 4, “**Early and recent history**” will gather the wide variety of relevant projects envisioned and, in part, realized over the last 100 years, primarily to illustrate that what I discuss is in no way new and these projects provide serious options while rethinking. Chapter 5, “**Architecture**,” will refer to the built framework that is the basis of our housing and eventually our homes. Chapter 6, “**Housing**,” will deal more in detail with the situation and process in the Netherlands, to be followed by Chapter 7: “**Home**,” what it means to have a home and what its role is in a networked world. This brings us to Chapter 8: “**Privacy or privacies**,” an attempt to rethink and question this timeless valuable principle. Chapter 9, “**Thinking and rethinking**” will try to contemplate the theoretical background and framework, to be followed by Chapter 10, “**Awareness**,” i.e., what is needed to create further participation and discussion. Chapter 11, “**Technology and the home**,” concentrates on the mixture of the rational and the abstract. Chapter 12 “**Sustainable**” will address the actual topics of sustainability and circularity. Chapter 13 on “**Actual developments and possible futures**” gathers current research and ideas. The book ends with Chapter 14, “**Epilogue**,” an extrapolated version of the introduction. Continuously, between two chapters, a brief independent text is added (sometimes by others), illustrating various examples of peripheral topics.



⁶Bachelard, G. (1994). *The Poetics of Space*. Beacon Press. (p.17)

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“Technological progress offers us more efficient ways to turn back the clock.”

Aldous Huxley

“The everyday cannot be captured in a complete conception.”⁷

John Habraken

40 years ago

It is – with the inescapable imagination – almost a classic radio play. The doorbell is a fine classic example of elementary but adequate mechanics; I pull the well-polished brass knob, setting in motion a system of steel rods, rolls, and cables and hear a bell chime somewhere in the tiny house. Silence, and seconds before I decide to try again, I hear the slow shuffle of soft-soled feet on a tiled floor. The green oak paneled door opens just enough to facilitate a limited view outside, and before me stands an older man with close behind him an older woman, both with a slightly disturbed but alert look on their face. Our mutual appointment is confirmed and a few minutes later, we sit together at a small wooden table with coffee and chocolate biscuits; I experience a setback in time. Two people, living together the greater part of their lives in a world changing around them, in a private space that has not changed whatsoever over the decades. I sense the distinct smells of bee’s wax, roses, and *eau de toilette*; I notice the original bakelite electrical switches and antique wallpaper, old rugs, stained-glass lamps, and well-maintained furniture. Junichiro Tanizaki, while referring to the classic Japanese house, described it so thoughtfully: *“(But) the quality of what we call beauty can only originate from the reality of everyday”⁸*. (transl.mp)

The couple has been informed a few months earlier that, unfortunately, they do have to leave the home they live in since its completion in 1921 for about a year, but explaining all of this face-to-face and with great care slightly seems to restore the faith, if even the belief that in the end, it will be for the better. Still, that is the ratio, the pragmatics, but can I honestly justify what I have just explained to them?

⁷Habraken, N. J. (1967). *het Alledaagse, over het ontstaan van de omgeving van alle dag*. Lemniscaat.(p.8, transl.mp)

⁸Tanizaki, J. (1933). *In’ei raisan*. (Ned.vert.: *Lof der Schaduw*, Meulenhoff 1993) p.32.

They have good reasons to be worried: my visit is a consequence of the decision made by the housing corporation together with the municipality to renovate their house. This project, back in 1980, concerns the historical workman's garden village Vreewijk in the southern part of Rotterdam. These small houses, all together about 4000, built around 1920 and designed by M. J. Grandpré-Moliere and others were raised for the "less fortunate population" but were, by now, in desperate need for a full and thorough renovation. Considered too small for "modern times" and in serious need for new electrical, gas, and water infrastructures and isolation, the village will be renovated in sections, sometimes its houses even enlarged by merging two houses into one. Great care is exercised to ensure the historical character of village, and public space and houses are maintained, but its inhabitants cannot stay in the house during renovation. This also was the period, i.e., early 1980s, in which it became customary to involve the inhabitants in the process of renovation. Afternoons and evenings in the local village house were devoted to explain what was to be done and why, what were the choices they had. It was, however, involving people in unfamiliar processes and – to many – complex procedures they never were involved in before. Their houses were designed and built for them, not with them.



Now

It is staring me in the face for quite a long time now and I have to admit that a real and proper understanding of its current status has not yet surfaced. Before me, on my desk, is a small, somewhat torn gray booklet and on my laptop-screen a reference text; both from quite different moments in time but also both pointing to an issue – or a wake-up call, maybe even a desire – that I believe should have become a reality or even standard practice long ago and most certainly by now.

The first, published in 1962, is written by John Habraken and is named "de dragers en de mensen"⁹ ("the supports and the people"). It is a condensed but clear and timeless plea for a fundamental reorganization

⁹Habraken, N. J. (1972). *de dragers en de mensen*. Scheltema & Holkema.

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and realization of the principles of process and enhanced participation of the inhabitant by creating a split between common basic structure and further private infill, thus, answering the need for more flexibility as well as individual ways and means of providing private space. That is, “the idea that the built environment is the product of an ongoing, never ending, design process in which environment transforms part by part”¹⁰.

The second is a far more recent statement made in 2017 by the Belgian architect/urban designer Leo van Broeck who, on several occasions that time such as keynotes and interviews, called for a paradigm-shift: *“Architecture is now more than ever designing housing. We should (re)organize the spatial presence of the human species on earth and stop the wastefulness of space. That is our deontological duty”* (transl.mp).

What binds these two statements is the fact that both question the ontology and framework of our housing, the position/role of architects and inhabitants, as well as the full process of how to realize a private human sphere. I could cover the many pages to come with the various initiatives over the last decades that rethought our “place on earth” and envisioned (built) environments that would provide an adequate answer to changing social circumstances or even fulfill the sometimes latent desire for a new utopia. Even now, while writing this text, the call in the Netherlands for more housing – without questioning the where and the how – avoids or even neglects a much needed fundamental rethinking, regardless of what it even means to have a home in an increasingly networked or hybrid society. There is just the unarticulated call for “more houses.”

To a certain extent, this rethinking tends to become blurred because some of its primary elements fail to become part of the thinking process. Fact is that we all have a home of some kind; it may be an elementary box on the 30th floor or a spacious apartment or it may be a tiny house or spacious villa, a dilapidated cardboard box, or a camper on wheels: we all return daily to a place we call home. Our dwelling, in the words of Peter Sloterdijk *“is de-thematized because it is meant to produce habituation and triviality”*¹¹ (transl.mp). It provides us with the elementary preconditions of a refuge, of spatial privacy, and of a private space to withdraw in to be able to act in public space.

¹⁰<https://web.archive.org/web/20110726140637/http://www.habraken.org/html/introduction.htm>

¹¹Sloterdijk, P. (2009). *Sferen II / Schuim*. Boom Onderwijs. (p.367)

This “classic” dichotomy is under pressure; despite the fact that the (Dutch) law defines spatial privacy legally by stating that unlawful entry is not allowed¹², an increasing number of digital “innovative” developments cause serious breaches in this protection. Since our home is not some Faraday’s cage, the suppliers of various (digital) technologies now available utilize our private space and gather (personal) data to accommodate commercial third parties; see, e.g., the smart TV, the vacuum cleaner, the smart meter, Google’s Home, and Amazon’s Alexa. The number of these “smart home” technologies – many of which are technological “solutions” desperately in search for a real problem – will only increase and cause a serious breach in what we consider (legally) protected private space. Thus, illustrating that we need to decide whether we wish to consider our physical private space to continue to exist as it is and has been for centuries or that we need to rethink the ontology of our private space and may come to the conclusion that changing the parameters of today is inevitable and that we need to/should focus on other more contemporary as well as future solutions.

While rethinking, some actual developments can no longer escape our attention and, above all, withdraw from a possible solution. The current topics of housing turning into commodities, growing cities, building waste, circularity, sustainability, changing households, housing refugees, and the homeless, as well as the increasing costs of (building) housing all need to be addressed; all require discussion far beyond the single simplified question of how to realize ten thousands of houses. The process of building housing is for decades structured and maintained along traditional lines, fixed procedures, bureaucratic regulations, and processes in which the inhabitant has no significant role. The entire process was – and in fact still is – one of supply instead of one of demand: the house as a commodity. The one issue that has a fundamental role in our “place on earth” is one from which the inhabitant is excluded, while, at the same time, the options for real participation and realization have and will become more realistic than ever; in the words of sociologist Richard Sennett: “*we need an open, interactive way of building the environment*”¹³. Thinking about democratic changes implies thinking about what is vital to our position as citizens, the most important being our private space and the ways and means in which its physical appearance is organized, designed, and, above all, realized.

¹²Art. 12 Dutch Constitution.

¹³Sennett, R. (2018). *Building and Dwelling*. Allen Lane. (p.263)

Tempting as it is, it seems easy enough to discuss the various elements that play their role in this individually, i.e., contemplate the position of our home, question the process of designing housing, and/or dismissing the building chain that is responsible for the result. The actual situation, however, is that all individual parties in this process all are just one link in the complete chain; removing one could mean neglecting or even removing possible solutions for a substantially improved result. At the same time, the saying, one cannot solve a problem with the same parties that are responsible for creating the current situation is – in part – true. It will require a serious attitude and reflection by all parties involved to rethink the problems at hand and create the preconditions for a real shift in realizing our housing. However, I believe that, paraphrasing Marshall McLuhan: there is absolutely no inevitability as long as there is a willingness to contemplate what is happening.

These texts, therefore, are *not* scientific texts about changing architecture only, *not* primarily about assumed disruptive technologies and *not* just about future housing. These texts are an attempt to align and synchronize all three with today's – and above all tomorrow's – hybrid networked world, raise the awareness, and stimulate the much needed discussion on a topic that concerns us all: we all have a home. I am aware of the fact that this topic involves several disciplines, many interests, and as many roles; especially over the last couple of years, we all should be familiar with the still continuing discussion concerning our housing, a discussion on a topic that is far too important to delegate to professionals only since their interest is not always compliant or in line with those of the inhabitant. Unless we think of or envision a changing ontology, it will, for decades, remain some physical translation to answer our need for spatial privacy; at the same time, this translation should incorporate the innovative technologies and creative options that facilitate a sphere that provides man the awareness that our place on earth is so much more than a physical shelter only.

Imagination and synthesis

Goethe once described architecture poetically as “frozen music” and music as “liquid architecture,” presumably referring to mutual atmospheres instead of any mathematical parallels. Centuries later, after his countryman and German artist Anselm Kiefer had moved to the village of Barjac in Southern France in 1993 and started modifying the remains of an old silk-factory into a work of art, he thus created an installation or

– in German – “*ein Gesamtkunstwerk.*” On this, in 2010, Sophie Fiennes produced the film/documentary¹⁴: “Over your cities grass will grow,” showing the abandoned factory with its tunnels and hidden spaces as well as the elements added by Kiefer. It resulted in a somewhat dystopian world, revealing what could happen after we have failed to address what is truly important but without addressing its purpose: it is acting and creating with nature, architecture, art, and materials.

I remember the words of Walter Gropius, back in 1919: “*Together, let us desire, conceive and create the new structure of the future, which will embrace architecture and sculpture, painting - in one unity*”¹⁵. Idealistically as this may sound, our life is not primarily about ratio and efficiency, reality is not the totality of information and our life is not to be represented as the sum-total of behavior and data. Art, free and/or constrained, provides us with the alternative, the un-thought, the disruptive, and the possible.

Art, said Donald Judd, is “everything at once.”

Why now?

In March 2019, the Triennale Milan opened: in her explanation curator Paola Antonelli refers to some issues connected to its theme “Broken Nature.” The Triennale “highlights the concept of *restorative design* and studies the state of the threads that connect humans to their natural environments – some frayed, others altogether severed” (ital.orig.mp). Architecture is explicitly mentioned as one of the themes involved.

As said, if there is one thing we all have in common, it is the fact that at a certain moment in time, at the end of the day, we return to a place we call home. That may very well be a temporary one or our own familiar place, but it should be a place where we dwell, i.e., where, at least for the moment, we are “at peace.” It is a space, a place we all have, or at least are entitled to have, according also to the declaration of human rights. Why, one might question, this written exercise to rethink or maybe even (re)define a topic that is so familiar to everyone, so common in human life. Let me recall Walter Benjamin’s thinking, rephrased by Brian Elliot:

¹⁴https://en.wikipedia.org/wiki/Over_Your_Cities_Grass_Will_Grow

¹⁵Bauhaus Manifesto, 1919.

“the meaning of the present is latent within the past; and, second, that this meaning can only be made explicit through recollecting the material environment in which past experience is embedded.” The present, however, is a time permeated with developments and circumstances that have become – to a certain extent – out of control; technological innovations become less embedded in their necessary social/ethical frameworks and the number of people that is excluded by their – supposed – advantages increases. In general, politics and society fail to succeed in justifying, let alone embedding technological developments in society, let alone create acceptance. Within the building column, digital innovations are too often limited to the process of designing, building, and maintaining, not as a way and means to involve the inhabitant in the full and enduring process of controlling the environment and data which increasingly are an embodied part of what constitutes that environment. There is no longer a world consisting of data/connectivity and a world free of data/connectivity; Luciano Floridi’s *“infosphere”* is a reality that frames our world.

100 years after Gropius, today’s rationalized world also tends to neglect or sometimes even dismiss the arts as important influential element, as irrelevant within our attitude of emphasizing control and efficiency and thus quantifying everything around us. The Dutch philosopher Thijs Lijster argues, however, that art is not a passive object, we do not reflect on art but art reflects in itself. If we include architecture – classically referred to as the mother of all arts – in this, we enter a relevant topic: after all, architecture is experienced by moving through the spaces it provides or creates. Many performing artists, e.g., in ballet and performance make use of a certain space to “contemplate or discuss” their role, position, and movement; many architectural projects (see Chapter 4) balance on the thin line between art project and building. In 2007, Peter Zumthor completed the Bruder Klaus Kapelle in Wachendorf, Germany, based on the initiative from a local farmer and realized in close cooperation with volunteers. Ultimately situated within a rectangular building, a small tipi-shaped chapel was constructed on the basis of thin tree-trunks covered in concrete. The trunks were burned over three weeks after the concrete hardened, leaving – together with small windows – an atmosphere inviting reflection and meditation. It is, paraphrasing Lijster, an environment that reflects *in itself*, providing a sphere that “performs” far beyond the realm of architecture only. Elementary architecture as such is an example of creating a sphere that is in no need of “technology” – let alone digital assistance – to deliver more than the requested functionality only; i.e., a sphere for contemplation and thinking our “place on earth.” In an interview with Susan Perkins in 1999, Zumthor argues: *“I think a good building should be – and all pieces, all pieces of art – they should be like nature more. And this I think you achieve if you stick to use.”*

Linking the above to the need for dwelling, we may well arrive at the conclusion that our dwelling is not only influenced by the need for a roof over our head; after all, the most elementary construction will do. The urge to feel free, safe, and private in a certain place is accompanied by the human need to experience the less explicit or rational contents of life. We carefully choose the elements that shape and color our environment, we listen to certain music fit for a certain moment, we dress different for a party, we make sure that we smell a rose instead of a sewer, and we select specific pictures to be shown on the walls. All these random influences and atmospheres can – in a hybrid environment – be provided/steered by technological innovations and together balance the complete sphere we inhabit or utilize at a certain place, at a certain time. In 1958, when Edgar Varèse composed the “Poème Electronique” for the Philips Pavilion at the World Fair in Brussels, he did so in close cooperation with architect le Corbusier and designer/composer Iannis Xenakis.

Especially over the last years, we become more and more aware of some elementary issues in our lives, e.g., the origins of our food; we increasingly understand that if we use local suppliers/farmers, we can waive long transport/logistical processes, raise the quality of our foods, and buy what we really need. We have begun to realize that we need to transform our ways of producing energy and of utilizing smaller (electrical) or even no cars and use one of today’s many variations on a bike and reject plastics and need greener, more livable cities. At the same time, the principles of organizing the building chain in the Netherlands remain almost unchanged for more than 50 years now and are as such responsible for 40% of the waste; an average renovation of a single house produces some 5 tons of waste. Notwithstanding the fact that this situation is comparable in most European countries, I will use the Netherlands as a guiding line. First, to make this not an inventory but an underlayment for discussion that is by no means limited by choice of country. Second, because my densely populated country could very well serve as a useful – and hopefully innovative/creative – example.

I will argue in the coming chapters that the envisioning and process of building and supplying houses needs a thorough rethinking in favor of a far more democratic/primary role for the inhabitant, more industrialization, more standardization, increasing flexibility, and adaptability based on principles of sustainability and circularity and, hence, less waste. I will also argue that our built environment – therefore including our housing – cannot and should not escape the relevant digital technologies, assuming they serve a subordinate and/or facilitating role. Last, but not least, I will emphasize the position and role of the arts in this entire

process and result since I am convinced that its role within the topic is deeply underestimated as well as undervalued.

Why, one could ask, repeating the initiatives to address yet another vision, why another rethinking? Someone recently remarked that the future is the answer to today's questions. My answer, to be elaborated and articulated in the coming chapters, would be that these times are fundamentally different from the ones "behind" us; i.e., besides the fact that developments influence us even faster, they have also entered the space that we consider and define as private. When the concept on which we base our views of society becomes once more subject to serious change, we can turn our back and withdraw in privacy, or we can rethink the concept and renegotiate our place. I do not intend to raise any moral judgment in this; what I do wish to emphasize is the need to address and answer these questions by all of us, be it from in a philosophical, ethical, technical, or social point of view.

Preferably, "everything at once."