

The welfare culture. Poetics of comfort in architecture of the 19th and 20th centuries

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Today we agree to consider comfort as an objective concept, but we are wrong. The architectural history of the last two centuries shows that welfare, far from being a purely technical issue – a balance between weather and the physiological human constants – is a culturally constructed idea. Comfort is not a kind of algorithm that can be computed according to certain parameters of temperature and humidity – or at least, not only that – but a concept in accordance with diverse and complex factors, such as the relationships between space and the human body or the ways of conceiving nature in architecture.

Comfort is also a relative term. Every era has owned a way of understanding the idea of comfort: from the notion of precarious shelter in the old treaties on architecture's origins all the way to the sophisticated contemporary environments, passing through the almost sybaritic comfort of the Victorian house or the ascetic dwelling of the machines à habiter. Strictly speaking, even this generalization of the idea of welfare would be too risky, since the debate over comfort specifically conceived as an architectural issue is relatively recent. In fact, throughout history has not always been clear that providing that we now call 'comfort' was the primary function of buildings.

To complicate matters, to this cultural and relative character of the idea of comfort should be added the polysemy of the term itself, with its nuances that account for the diverse senses with which every age has conceived it. The origins of the word contains in itself a kind of misunderstanding, since the term 'comfort', which has been exported to most of the world's languages and is usually linked with English culture, actually comes from a French verb, *conforter*. The etymology reveals that the sophisticated comfort of today was originally a simple synonym of 'consoling'. It was not until the early 18th-century when the idea of comfort left his pristine scarce sense to signify the physical welfare, according to a semantic crescendo that soon leads the notion to a psychological denotation, as evidenced by the definition in a English dictionary of 1770: "Comfort is an state of tranquil enjoyment."

It was in France, however, where by that time the idea of comfort acquired an actual architectural meaning in the rococo interiors, which were intimate and cozy, far from the ceremonial pomp of the galleries of the court at Versailles – as immense as uncomfortable. The ideal of this new way of conceiving the environment was no longer the original *conforter* – since what was sought was not merely a simple shelter – nor a petty bourgeois welfare – which was not yet invented –, but a new idea conceived in terms of *comodité* and *convenance*, two words denoting the rational organization of buildings, their functional decorum and their adaptation to the small scale of the human body. As it is known, it was finally in England, at the time of the Industrial Revolution, where the idea of comfort acquired the meaning we attach today, eventually becoming an essential feature of the British idiosyncrasie. Since then, the idea was inseparable from the national trait: comfort was, overall, 'English comfort'. In fact, even in the early 20th-century, the term was inseparable from British ideals, especially from the German point of view, as evidenced by the articles of Adolf Loos on the English fashion or by the Hermann Muthesius texts on British architecture and decorative arts, collected in a book not surprisingly titled *Das Englische Haus*.

All this explains why, until just over a century, comfort was understood as something that, at first, was primarily cultural (specifically English), and only later material^[1]. The notion of comfort is therefore an ideological device and, as such, has its own history, although has not received the historiographical attention it deserves, with the exception of *Mechanization Takes Command*, published in 1948, a text that today remains a reference on the subject. In this book Siegfried Giedion addresses the history of comfort

with a long sample of those 19th-century inventions that were adopted by the early avant-garde architecture. Fruit of the time – the era of the heroic stories of modern architecture – the Giedion's perspective impacted on the technical dimension of comfort, wondering specially the role played by the machines in the new formal paradigm and opening a hermeneutic way that soon after was continued by Reyner Banham in *The Architecture of the Well-tempered Environment*, published in 1961, a book in which comfort is thought to be a kind of conceptual continuum in a leak that constantly going from technique to architectural form.

Regarding architectural comfort, remain however many historiographical gaps, despite the myriad of manuals published following *Design with Climate* (1963), a book in which Victor Olgyay knotted systematically the climatic and physiological issues of welfare with modern architecture. The further development of architectural phenomenology, with its emphasis on the relationship between space, body and memory, and Postmodernism, with its historical and qualitative view, were not fruitful to investigate the aesthetic dimensions that unavoidably involves the notion of comfort, nor its cultural sense, except the singular book by Witold Rybczynski *Home: A Short History of an Idea* (1986), a documented and suggestive history of comfort in the domestic realm. Therefore, it has been necessary to wait for the last decade for a new aesthetic and multidisciplinary review of comfort, based, on one hand, on the environment awareness and, on the other hand, on the influence of the aesthetics of atmospheres – theorized by phenomenological philosophy, but experienced by art. Such a qualitative perspective is going to be discussed here through a brief history of comfort, in which the different meanings assigned to the concept over the past two centuries will be taken in account, according to a sort of map of variable 'poetic'.

The poetic of fire

The first of the poetic of comfort is the poetic of fire. Always linked to the origin of art and civilization, and to foundation rituals, fire is also a symbol of architecture. Vitruvius was who, at the beginning of Book II of *De Architecture* – and in order to elucidate the origins of humanity – hypothesized that fire or, rather, the fact of controlling it, founds the human society. According to him, the 'magna commoditas' generated by the flame gathers men, induces a rapid creation of language and finally leads to stable settlements^[2]. This genealogy mixing energy, sociability and construction (in this order) was not, however, canonical. In fact, for architects were more practical the ideas proposed 1500 years later by Alberti in *De Re aedificatoria*. Unlike Vitruvius, for Alberti the "principle of congregation of men" is not the campfire, but "the ceiling and the wall", ie the 'partitio' thanks to which fire, protected from outside, warms the bodies clustered around it^[3]. In Alberti, therefore, construction precedes fire: is that one which ensures the well-being.

This dual perspective leads to a fruitful dichotomy. While for Vitruvius the 'commoditas' is, in principle, directly procured by fire – without built mediations –, for Alberti it cannot be conceived outside the walls of a house. The idea of 'comfort' of the former is energetic, and the second's one, tectonics. However, both share the assumption that civilization consists on bracketing the nature to create controlled microclimates within unpredictable climates. That both possibilities are intimately linked is evidenced by many examples of pristine architectures, such as skin tents or wooden huts, which are constructions that shelter in their inside the fire of civilization. As rightly warns Luis Fernández-Galiano in *Fire and memory*, comfort is both an energetic and a tectonic issue: it depends on both the combustion and the construction^[4].

In the traditional house, fire induces a sort of topology: rooms are ranked in terms of proximity to fire – a fire that not only heats, but transforms food, forges

1. WITOLD, Rybczynski: *La casa. Historia de una idea*. Nerea: San Sebastián, 2006, p. 132 [Rybczynski, Witold, *Home: A Short History of an Idea*, (1986)]

2. VITRUVIO: *Los diez libros de arquitectura*. Iberia: Barcelona, 2007, pp. 35-36

3. ROVIRA, Josep M: *Leon Battista Alberti*. Península: Barcelona, 1988, pp. 256-257

4. FERNÁNDEZ-GALIANO, Luis: *El fuego y la memoria*. Alianza: Madrid, 1991, pp. 31-40 [FERNÁNDEZ-GALIANO, Luis, *Fire and Memory: On Architecture and Energy* (2000)].

5. *Ibidem*.

6. Rybczynski, W., *Op. cit.*, p. 140.

7. SLAVOJ, Žižek: *El tercer espacio: Arquitectura Viva* 135, p.112

8. PRIETO, E., *La arquitectura de la ciudad global. Redes, no lugares, naturaleza*, Biblioteca Nueva, Madrid, 2011, pp. 223-224. See also Seel, M., *Estética del aparecer*. Kantz: Madrid, 2010, p. 144 and *Eine Ästhetik der Natur, Suhrkamp*, 1996; Böhme, G., *Atmosphäre*, Suhrkamp, 1995; Griffero, T., *Atmosferologia*. Editori: Laterza, 2010.

and repairs tools and makes possible all the domestic alchemy. Fire is both the functional and the symbolic center of home. But the welfare procured by fire is poor, because fire generates a heat gradient that organizes inefficiently the domestic spaces, disabling it for many months a year. This will happen for many centuries, at least until the late 18th-century, when the ancient fire techniques were improved thanks to induced shots, refractory bricks and other innovations that found their first application field in Great Britain.

These improvements in domestic fireplace engineering were only the first step of the major changes that throughout the 19th-century suffered the notion of well-being. Among them, the main impact was the invention of central heating systems because, with the radiators, heat was no longer associated with fire: this one lost its status as visible and symbolic thing. Fire gradients with which until then houses were organized in habitable or uninhabitable areas gave way to the thermal homogenization of space and, with it, to the breakdown of traditional representative hierarchies. This, of course, produced a symbolic crisis.

Although quickly the new techniques of environment management were adopted – especially in the houses of the petty bourgeoisie, which had no representative status to maintain –, many misgivings and anachronisms were produced by the new situation. Some of those anachronisms were the result of pure snobbery, like those of the English aristocracy, who resisted until the early 20th-century to incorporate radiators, also electricity and bathrooms, to its mansions. Others, however, answered to the sudden loss of the symbolic functions of fire with compromise solutions: some of which were absurd, as giving to radiators the shape of fireplaces, and others simply redundant, as doubling energy sources, as evidenced by the homes of Frank Lloyd Wright, in which physiological comfort is entrusted to an efficient and invisible conventional radiator, while 'ideological comfort' still depends on the reassuring presence of the large fireplace in around which spaces are arranged.

The poetic of hygiene

The evolution of the poetic of fire shows that welfare depends both on technical and intellectual issues. Hence, it is possible to speak of an 'imaginary of comfort', in which the objective is intertwined with the irrational, the innovative with the traditional and the sensitive with the intellectual. One of the major steps in the construction of this imaginary was the rediscovery of the concept of hygiene in the late 18th-century, thanks to the new therapies based on the use – almost indiscriminate – of ventilation, in order to evacuate the 'miasma' that – as it was believed then – transmitted diseases through air. With the notion of hygiene, the idea of comfort adopted a new therapeutic nuance that overflowed the traditionally thermal sense of the concept, and that resonated with the emerging medicalization which, also at that time, was suffering architecture.

In Victorian England, the alarm by the miasma produced by stoves and fireplaces perpetually lit in houses coincided with other types of alarm, social or even moral. Those were related to a dual idea of hygiene: on one hand, the hygiene as individual body health; on the other hand, the hygiene as the health (salvation) of the body of society, especially in a context of transformation – that of the Industrial Revolution – which lacked references. Conceived as a kind of moral imperative, comfort tended, for the first time, to 'democratize' itself: in fact, throughout the first half of the 19th-century, it was more likely to find a prison, a hospital or asylum with central heating and ventilation systems, than a house. This shows also the inseparable relationship between the panoptics and the 'panthermics'^[6], is between the architectures of visual control of body and those of well-being management.

To delete carbonic acids, Victorian houses were filled with ducts and vents through which penetrated air, according to ventilation requirements that now seem absurd. In a treatise on "healthy homes", the first edition of which appeared in 1880, the British engineer Douglas Galton stated that to properly ventilate a room were needed 50 cubic feet per minute and person, a figure that contrasts with the 15 feet per minute and person^[6] that are today recommended for houses – the air tightness of which is far greater than that of the 21st-century buildings. Banham has shown how the introduction of those ventilation strategies – with all their associated machinery – did not produce a formal revolution in architecture at all. Actually, the new devices were adopted with pragmatism to avoid formal conflicts, according to a principle that, in general, was very simple: in areas that had no "history" – essentially toilets – was lawful showing mechanical apparatus, but in others – marked for its representative status – ducts and vents were disguised or hidden in the bowels of the house (false ceilings, partitions, double floor), just as the hot water pipes or radiators were disguised in false ceilings or fireplaces.

In general, the poetic of hygiene was a poetic of camouflage. The machinery of comfort did not alter the traditional forms of architecture, and did not undermine its representative character. It was aesthetically neutral, reduced to be a kind of energetic machinery (a sort of theatrical apparatus) making possible the operation of the scene, but the destiny of which is to remain hidden – hence, the shine of the visible architectural characters is held by the stage of the invisible and 'dirty' apparatus. By this way, the ideal of this new comfort poetic seems to be inspired in what we may call 'the Nautilus aesthetics', the submarine imagined by Jules Verne, equipped with sophisticated and hidden machinery, but decorated and furnished according to the ideals of comfort and decency that were indistinguishable from those of any bourgeois house. Modern Avant-garde inherited from the 19th-century house this ideal both mechanical and decorous of comfort. In Modern movement, devices are also hidden: installations continue to be mere energetic stage machinery in the service of an aesthetic research the argument of which is now the notion of continuous and homogeneous space. But, as the new spatial isotropy required abstract and visually controlled areas, ducts and vents are being confined within the great invention of the time, the false ceiling, that camera horroris or, in the words of Slavoj Žižek, that 'third space'^[7] containing what is residual and unseemly in architecture but essential to achieve the thermal continuity on which depends the possibility of an universal building, ie an architecture independent of climate and context. By this way, spatial continuum and thermal continuum become a kind of ideological brothers.

In modern notion of hygiene, coincidence of thermal issues with spatial ones it was clear also in ergonomics, the new science emerged with Industrial Revolution in order to study biological and technological data applied to problems of mutual adaptation between man and artefacts created by him. Ergonomics is a consensus discipline that mediates between traditional space – associated with the human body – and that of the machine: it is a kind of 'spatial hygiene' which allows to organize the areas shared by organisms and mechanisms to optimize their movements, counting their steps in a kind of choreography designed not only to optimize the work but also to avoid unnecessary expenditures of bodily energy.

The poetic of habitat

The case of ergonomics illustrates how the notion of welfare is inextricably linked to architectural spaces and to the type of beings and objects displayed there. So far in this brief history, comfort has been thought to be primarily as the result of artificial microclimates, that 'magna commoditas' addressed by Vitruvius to the origin of architecture. In such a view comfort was

inseparable from the idea of confined space, a space separated from nature through a tectonic barrier (the Alberti's 'partitio'). With modernity, that effect is diluted in a paradoxical way. Heirs of the Victorian obsession for outdoor and influenced by the anachronistic ideology of Rousseau descendants, architectural vanguards aspire to restore ties with nature, but hesitate between the ideal of thermal homogeneity based on the creation of a completely artificial environment and the ideal of gradient based on the thermal source position. On one hand, the fact of hiding ducts in false ceilings, the radical isolation techniques – for example, the mur-neutralisant of Le Corbusier – and the non-contextualistic ideology induced the homogenization, but, on the other hand, the aesthetic of transparency, the picturesque, the terraces and the solarium and the sporting culture associated with them, they all realized the ideal of outdoor life.

The conflict between the ideal of homogeneity and that of gradient was only temporary: architects eventually opted for the homogenization side, got through the new air conditioning systems, as efficient as blind. But while it lasted, the ideal of life in nature served to refine the notion of comfort, according to processes involving the same gains as losses. On one hand, was the end of the old tradition of architectural filters of the bourgeois house – shutters, blinds, stores –, which until then had been able to successfully mitigate climate gradients between outside and internal microclimates. Despite their effectiveness, those filters were replaced, without more, by the corbusian pan de verre and curtain walls. On the other hand – as gains – was the ideological and aesthetic rethinking of climate as a beneficial effect on human body, an effect achieved not only by ventilation – as the Victorians had sought obsessively – but especially by sunlight.

Conceived by modern as a metonymy of nature, the sun accounted the notion of returning to the naive, but also – it is the time of the second wave of medicalization of architecture – other therapeutic ideas. Between them, foremost conceived heliotherapy – which had been founded by two doctors, and Friedrich Arnold Lahmann Riklin mid-19th-century – and, in general, outdoor life in biological terms, as means for retrieving those 'essential pleasures' which, according to Le Corbusier, industrial cities had taken from men. But to return to enjoy such pleasures it was necessary firstly to transform the entire human environment, 'restoring' nature, colonizing with beautiful horizons and meadows the open spaces arising from new urban planning urban models, and giving rise to a scenery as idyllic as impossible ("Il faut planter des arbres!" said strongly Le Corbusier). To this principle should be added another, nor less important, based on the adjustment of psycho-physiological functions of dwelling to solar cycles, according to a key – equally hygienist and cosmic – that would be a recurring emblem of Le Corbusier work, as evidenced by the beautiful engravings of *Le Poème de l'angle droit* or the schemes of the Unites d'habitation geometry.

In this solar-mystic context, a new word, culled from scientific language, acquires prominence: habitat. For Le Corbusier, designing a city – a sort of built ecosystem – involves building a "right habitat" on a "healthy, resistant and immunized by nature" land pieces. Nature works here as a kind of "principle of vaccination" to protect the city from those infectious diseases, such as overcrowding, "sick light" or pollution, which were a consequence of capitalist speculations with space. Hence, instead of traditional urban models such as Paris or Buenos Aires, Le Corbusier – like Hilberseimer, May and Meyer – proposes a new and hygienic scheme based on large blocks opened to light and to the city landscape. Symbolized by the great eye drawn on many of Corbusian plans, the landscape is becoming a sort of large canvas brought into the house through the same windows that filtered sunlight. The sun! This great disc in movement which – thanks to his boundless energy – nourishes and simultaneously disinfects living architectural spaces.

Through the heliotechnical myth, the notion of comfort – far from being constructed only about the mechanical – acquires a biological sense that anticipates, in many ways, subsequent bioclimatism and the consideration of both the active environmental techniques – the 'energy regeneration' tools, in the Banham jargon – and the passive strategies of 'conservation' and 'selection'. Both dimensions would be part of those integrative visions which, from the 1950s, try to systematize the idea of comfort from a scientific point of view in order to eliminate inconsistencies and hesitations. Between those systematic points of view highlights that of Victor Olgay, whose *Design with Climate* would lead, for the first time, to a more holistic notion of comfort, which account for its variable relationship with latitudes and local building traditions through a true physiological concept: the well-being conceived as an hygrothermal balance between weather conditions and human constants. This idea of comfort would become later a sort of koine or least common multiple of the language (or jargon) of sustainability.

The poetic of atmospheres

This little story of the cultural construction of comfort would not be completed without trying phenomenological, also existential, aspects the term 'comfort' implies. In the past two decades – since the vocabulary of comfort became part of the language, more generally, of sustainability – in architecture has gained some interest the notion of 'atmosphere', imported from both the contemporary aesthetics of nature and some art currents. From the new viewpoint, comfort seems to depend on the construction of an environment that, however, would not already consist on the balance between physiological constants and weather conditions (temperature, relative humidity, air velocity, swaddling level), but in a qualitative attention to other factors pertaining to human senses: textures, smells, sounds or lights. Thus, architectural environments would not be those biological 'habitats' dreamed by some modern, but completely artificial fields: sensations fields in which a particular aesthetic game occurs.

The ideal of such environments is not the hygrothermal ataraxia, but the perceptive transgression. Comfort is no longer a welfare bar: it becomes a sort of dangerous point of no return of which it should get away at all costs, because in the new scale of sensations, comfort marks 'the zero'. Actually, what interests specialists in creating environments is what is above welfare – pleasure or, rather, excessive pleasure – or what is below – pain –, not the insubstantial and repressed average. So it was at least for whom, in the 1960s and 1970s and in the heat of the most transgressive performances, explored – by aesthetic means – such excited spaces above or below the line of comfort: complex and blurred atmospheres produced by altered states of consciousness, by brutal LSD hallucinations, or merely by the banal disorientation in a nightclub atmosphere. In all of those examples, comfort – linked, without more, to bourgeois conventions – has only a negative definition: it was the measure of a state of normalcy that was intended at all costs overcome.

This research anticipates, in many ways, to the contemporary notion of 'atmosphere' concocted by phenomenological philosophy – Schmidt, Böhme, Seel, Sloterdijk – in which the notion of environment acquires an existential sense encompassing all the dimensions of human being, also memory and imagination. So conceived, comfort connects with many of the ideas that, over the 1960s and 1970s, have been proposed by theoreticians of phenomenological architecture, particularly Christian Norberg-Schulz. As writes Martin Seel, an atmosphere is "a form of noting existential correspondences through senses and through emotions" which consists on "the appearing of a situation composed by temperatures and smells, sounds and transparencies, gestures and symbols touching in one way or another to those who are immersed in

that situation"^[8]. The important thing here is not the material condition of the buildings but their ability to create qualitative and perceptual situations which are able to be stored in memory and evoked later at will. Man lives neither in buildings nor in cities or in countryside: in fact, he dwells in atmospheres.

However, before being imported from philosophy to adopt this new sense – influencing ultimately the work of SANAA, Peter Zumthor or Herzog & de Meuron, to name just a few examples –, the notion of atmosphere already had its own architectural lineage. With his bubble, Reyner Banham – perhaps influenced by the absurd 'orgone' of Wilhelm Reich – was the first to dream of the possibility of reducing architecture to a primordial atmospheric version: an elemental hut of Plexiglas and air conditioning conceived as a sort of informalism manifesto. The technological burrow of Banham – which anticipates some contemporary experiments such as the Philippe Rahm thermodynamic houses – purported to show that both form and symbolic traditions were dispensable for architecture and that, strictly speaking, discipline itself was also dispensable, bearing in mind that it was sufficient with a transparent membrane and the core services of the portable bubble to meet all physiological needs. The architecture could thus lose its tectonic condition, in order to return, as Vitruvius wanted, to her original igneous condition.

"A home is not a house." Referring to his transparent burrow, these words of Banham suggest a symbolic displacement of the idea of comfort. Reduced to be a climatic mantle, home is like a second skin that retains heat, wrapping bodies directly. Hence, spatial or tectonic mediations seem not to be necessary in architecture, which now can be reduced to her atmospheric quintessence. Welfare is transformed in a matter of specialized skins to be miniaturized and encapsulated, becoming dresses or suits like those of the astronauts, that kind of perfect and portable architecture.

The portable comfort is only an ideal, but notes a trend that is very typical of our time: the tendency to insulate from outside in order to build an artificial atmosphere, which now is not conceived as that environment of perceptive transgressions defended by the vanguards of the 1960s, but as an environment of balance and uniformity. What in this type of environment is now between brackets is not, however, nature, but that second nature which are cities for man and to which he feels helpless or even alienated. Disbelieved of industrial cities and megalopolis, modern man aspires to retract into the bubble – as Finsterlin or Kiesler dreamed in the 1920s – or to return to maternal womb with a soft architecture of comfortable nooks, opposed to the hygienic and heliotropic transparency of modernity.

But earlier, in his optimistic praise of modern city, the 19th-century had created superb greenhouses, great halls of universal exhibitions and Benjaminian passages, those large structures guarding outside and creating within it a miniaturized world, climatically controlled and exposed to the strategies of presentation of the goods, while maintaining the illusion to live in contact with nature. As this architecture fully anticipates shopping centers, airports, amusement parks and other non-sites, it seems logical that Peter Sloterdijk has suggested that greenhouses and bubbles are the best metaphors to account for our world, never before so exposed to the unstoppable currents of capital flows, and never before so afraid of such currents. So, in an improbable way, the globalization aspires to combine transparency with insulation and air conditioning, as suggested by the large bubble with which Fuller proposed covering part of Manhattan. The skins of those bubbles are being conceived to protect not individual bodies, but the great social body, keeping him canned – comfortable – according to an ideal of civilization that, not surprisingly, can be expressed by the contemporary term, already a little worn, of 'Welfare State'. The 'magna

commoditas' described by Vitruvius – a well-being emerged from gathering around campfire or sheltering in a bubble – may be by this way the principle to knot again architecture and society.

From the metaphor of fire to that of atmospheres, through the poetry of hygiene or habitat, this brief and partial history of comfort suggests that welfare is not an objectifiable concept, nor an idea synthesized in the technician or scientist test tubes, but a complex notion, consisting of several intertwined layers: physiological, constructive, aesthetic, existential, social. The history of comfort is, thus, a sort of small version of the history of culture.

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COMFORT
ARCHITECTURE
HYGIENE
HABITAT
ATMOSPHERE