Chapter 19
Emergences in Social Systems: Perceptual Factors, Affordances and Performances in Architecture

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1 Perception and Architecture

A fundamental condition of each perceptual phenomena, according to Merleau-Ponty, is the *mediating role of the body*, where the latter means

> a synergistic system – all the functions of which are gathered and connected in the overall movement of being in the world – insofar as it is the coagulated image of existence [16].

It also assumes, as is known, the synesthesia of perceptual phenomena, albeit with relationships of *non-equivalence* between the different senses [16], and between the many sensory *effects*.

In architecture (and more generally in the context of territorial and landscape disciplines) perception does not seem to be distinguishable from the more general *fruitive* factors of organisms, contexts, structures, etc.: the latter being factors in which uses, functional connotations, memories, customs, symbolic and cultural values, etc., converge. In Benjamin [1], the description of the relationships existing between the perception of architecture, its *uses* and *customs*, where the latter (through which the *tactical enjoyment*, or the *use* of the architectural artefacts, is chiefly expressed) *largely determine even the optical reception* (or the perceptual events effectively linked to the structures that shape the built environment), is symptomatic. It is observed that: the perception of architecture

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(…) does not appear to be distinguishable from components linked to the *uses* of the structures, thus placing it moreover in a particular position between those same assumptions that – above all historically – have outlined the characteristics and modes of use of artistic works [9].

Again in Benjamin [1], a clear validation may be observed in this respect; distraction and

concentration are contrasted in a way that allows this formulation: a man who concentrates before a work of art is absorbed by it; he enters into this work of art the way legend tells of the Chinese painter when he viewed his finished work. In contrast, the distracted mass absorbs the work of art. This is most obvious with regard to buildings [1].

In architecture, therefore, through

the practices of the use of space, behaviors put into effect, and attributions of meaning, the inhabitants create the life that shapes the designed form – and here too it is worth just mentioning that only through this process does the latter fulfill its *raison d'être* (…). It is like saying that a designed form becomes architecture and therefore achieves its entelechy – in the sense of the condition of perfection of the being that achieves its full potential – only when it is *inhabited by a life* [2].

It results in each tautological assonance between architecture and the social systems it is aimed at (and therefore the methods—and developments—in behavior, fruition and perception of the latter).[1]

In such a connotation, emphasis on the concept of architecture is justified by design approaches, which are in fact widely opposed. Of the latter we can mention, for example, those cases that fall under a sort of professional pathology, Ahp—Architects Hate People syndrome [2], according to which,

for the afflicted designer (…) the subjectivity of those who inhabit architecture is a disturbing, unpredictable and unreliable element; the inhabitant himself is the bearer of chaos, where instead the order of an object of creation complete in itself should reign [2].

2 Emergences and Perceptual Factors

The foregoing reasoning infers the need for architectural design to anticipate the behaviors of structures, anthropized environments, etc., in keeping with the requirements of the users, and the *emergences* (here understood strictly in keeping with the current connotations of the systemic approach) that may arise in relation to the complex interactions between *elements*, *events*, etc. Of these latter, the perceptual factors, along with others, take on significant roles in the emergences of social systems.

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[1] See also: [7, 12].

It is affirmed how, for example, in individuals, every perceptual experience determines a *mnemonic exploration* aimed at searching for similarities with a past history, or in their absence, produces the *creation of a new attractor*, assuming for the latter a meaning in keeping with the language of non-linear dynamic systems: in this sense, the attractors can be thought of as

> points, or a set of points, towards which the trajectories that describe the evolution of the system (brain - *author's note*) converge (...). We can therefore conclude that (in each perceptual event, as far as we are concerned here – *author's note*) the brain "lives" (evolves) covering trajectories in the landscape of the attractors (of which each is a memory of past experiences – *author's note*) [18].

Thus,

> the brain calls into question its entire experiential framework and this gives rise to the meaning of the new perceptual experience, which does not belong (...) to the stimulus (...) but to the context of the redesigned landscape of the attractors, in its ever new entirety (...) The reorganization of the landscape of the attractors, as much as the starting point is the framework found at the time of the perceptual act, introduces elements that are not linked to that framework by a relationship of need, and therefore cannot be deduced or predicted by it, link by link in a logical or casual sequence [18].

Merleau-Ponty characterizes perception as that *terrain*

> in which real meanings originate, a terrain that came before scientific knowledge and philosophical reflection [17].

Even the *mediating role of the body* however, *an inescapable condition for every perceptual phenomenon* [16], makes it an equally plausible opportunity for investigations and speculations: above all assuming the *profound* nexuses of the *mind-body* relationship and the *non-separability* between the *observer* and the *observed object* (or *topic of discussion*, or *theme for reflection*, etc.).[2] The same connotation of *phenomenal body* (or *body-acquaintance*) in fact, strictly ascribable to the existentialist thinking of Merleau-Ponty, gives rise to each legitimization in that sense: the analysis of the perception

> allows access not to a "transcendental field" but a "phenomenal field", to grasp existence in its corporeality and in its immediate relationship with the world experienced, which goes beyond the objective world of science. Merleau-Ponty was far from devaluing the role of scientific knowledge (...) but believed that it was something derived, the result of a detachment from the "world of life" (...). The terrain of his investigation is comprised not of consciousness but by the structures of the "world of life" (...). The outcome of his analysis was the outright rejection of a consciousness-based approach, the origin of which he saw in the Cartesian *cogito* (...). Reinterpreted in phenomenological terms, the *cogito* reveals to us not a separate ego but the existence of man in the world, linked by relationships with his own and with other bodies: consciousness does not exist separately from things, but it always relates to the structures of being-in-the-world [17].

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[2] This *non-separability* is nevertheless assumed here in the sense that it does not obliterate further aspects and issues, as for example in: [5].

3 Affordances

The discussion of perceptual topics may shift from various approaches, such as that ascribable to the cognitive sciences, or to *perceptual functionalism*, or that derive directly from Gestalt psychology, etc. (of which, for example, there are a few mentions in: [3]). A radical hypothesis in this sense is that developed by Gibson [11], and still considered the effect of a basic criticism of the cognitive conception.

In a nutshell, and as far as chiefly concerns us here, the hypothesis uses the concept of *affordance*, a neologism derived from the verb *to afford* and assumable as *the possibility of taking advantage of certain opportunities, availability*, etc.: so, *affordances* can be understood as the *availability of objects even with regard to their potential uses*, and as *calls to action*. According to Gibson [11], the *objects* of perception consist of values and meanings *external* to the perceiver and influential on the latter *through the opportunities offered* (*affordances*). In this regard, and in clear disagreement with *orthodox* psychology, Gibson [11] explicitly states that, during the observation of objects, the individual perceives *not the qualities* but rather the *opportunities offered*.

An *affordance simultaneously* concerns the perceived environment as much as the perceiver (or the *observer*) and his body. In fact, according to Gibson [11], we all *adapt to the environment insofar as we are shaped by it*. For this reason, *perceiving the world is to perceive ourselves at the same time* [11].

In Gibson [11], moreover, the concept of environment is made to coincide with that concerning the *world of ecological reality*. This latter is characterized by *objects endowed with meanings* and, as such, *revealed inasmuch as made available* through perceptual experiences. In this sense, for example, the edge of a precipice can be perceived as a *harmful affordance*, the flat surface of a lawn as an *invitation* to engage in certain activities, etc. In contrast to that *of the ecological reality*, the *world of the physical reality* is instead characterized by meanings *imposed* on *objects*, rather than *discovered* [11]. If Gibson's hypothesis were valid, it is observed, the effects in terms of the architectural design culture would be numerous and significant, as it would define

> the dominant mode through which an individual relates to the surrounding space [2].

Nevertheless from other hypotheses, and from the relative convergence factors, significant implications for architectural design and its possible evolutionary developments can be inferred.

4 Perception, Performances and Affordances

Of these implications, the requirements-performance based approach to the design of architecture certainly represents an area of disciplinary interest in speculations concerning perceptual factors (see for example, of the most recent contributions in this regard: Cucurnia [3]). A distinct aspect of this approach is the immanence of a

relationship, *tautological* for architecture (despite the more prohibitive deviations, such as the so-called *Ahp syndrome*, already mentioned), with the social systems and their requirement-based dynamics, sometimes explicitly clear and at other times only implicitly underlying and therefore in need of unveiling and interpretations [7, 8].

The relationships existing between perceptual factors and developments in requirements-performance based approaches can be briefly inferred, moreover, even by only considering what is argued, in this regard, about the effects of the former on the latter. As regards the causes that *motivate* a requirement,

> it is necessary to consider the numerous perceptual states that an individual (. . .) assimilates and records in sequence (. . .) The occurrences (past and present), that coexist in their interdependence [13], acquire value in relation to the magnitude of the emotions that produce and seem to determine the requirements-based developments. The requirement formation process (. . .) is therefore connected to the perception of the surrounding events, by learning from the past and with the ability of the individual to *foresee the future* (or identify the most likely scenarios – *author's note*) on the basis of their own experiences framework [3].

The *objective* and *phenomenal* dimensions of the body also converge in the perceptual processes (see, above all in relation to the *phenomenal dimension* of the body: Merleau-Ponty [16]). Each perceptual event, it is affirmed, involves the physical-sensory structure of the perceivers

> but also their psychological and socio-cultural spheres [15]; in fact, in relation to the sociocultural sphere, we know of the role assumed here by "social processes that culturally mediate the perceptual and learning dynamics" . . . [10, 15].

Even following Gibson's hypothesis, the connection between perceptual events and the development of requirements systems is equally confirmed. In this case, in fact, the *affordances*, which act as *objects* of perception as we have already observed, also perform roles of unveiling—or implementing, or *validating*—certain needs. In this regard it is sufficient to consider how *recognition* of the *opportunities perceived* cannot help but pertain to the *usefulness* found in them, and therefore the latter's obvious connection with the aim of satisfying *those* needs that motivate it: the connotation of *usefulness* naturally remains even in the case, for example, of *harmful affordances* (from which the danger levels of certain environments, objects, etc. are generally inferred).

Here however, and particularly obvious in the case of architecture, the modes with which *an individual relates to the surrounding space* [2] defined through the perception of the *affordances*, would express the synchronicity between the requirements that have *emerged*—if previously non-explicit—and their satisfaction (or in any case the identification of the strategies for the pursuit of the latter). Gibson's hypothesis, applied to architecture, may also be understood as enhancing the relationships between designers and users: here however, risks may arise of misunderstandings about the evolutionary developments of the requirements-performance based approach to the design [6], or it may reveal reductive connotations.

Where for example the latter—and especially its developments—means not appreciably permissive of poietic attitudes on the part of users concerning the

organization of their living places, the design of the *affordances* of anthropized environments, rather than their *performances*, would seem more in keeping with allowing the possibility of essentially optimal uses in terms of the personalization of spaces, buildings, etc., by the perceivers (here strictly understood in the sense explained by Gibson).[3] In reality, it is thanks to the perception of the designed space (here too strictly maintaining Gibson's hypothesis), and above all the *quality* of this space conferred to it by the design concerning:

– the expectations of the users (explicit and implicit, current and future),
– the relative *affordances* consistent with them,

that results in *scenarios* where poietic attitudes and the personalization of living areas by users are made possible (or at least *facilitated*) as they are *part of those* opportunities offered, *and not others*. Therefore recognizing that the prerogative of the developmental lines of the requirements-performance based approach is to consider the *many* types of *needs and requirements to be met* (functional, cultural, poietic, etc.), the *performances offered* by an architectural project, so decisively oriented, do not clash with consistent connotations of *affordances*, but rather exhibit significant conceptual assonances.

In this sense, even where there is emphasis (as already mentioned) on the *practical uses of the space* which would represent the *method* through which *the inhabitants create the life that shapes the designed form* [2], for the latter (and more generally for the *performances* equated with the *designed form*) it may reflect a greater propensity to *being inhabited by a life* in keeping with the *expectations that dynamically arise within it*, as far as the project is geared towards those expectations. Similarly, if through

> the expression of their intentions of appropriation and use, the inhabitants turn what is only a *space into an opportunity* (…), a *space implemented as reality* [2],

the use of the latter becomes all the more optimal the more the design of the former influences the perceivers with *affordances* geared towards satisfying their needs.

5 Conclusions

The *emergences* in social systems, here assumed in their connection with perceptual processes, clearly concern other areas (behavioral, phenomenological, etc.).[4] Likewise for the former there is a need for further development and interdisciplinary contributions—strictly attributable to a systemic approach—above all aimed at:

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[3] Generally speaking, in architecture, *performances* can be taken as the *behaviors* (under certain conditions of use and strain) of spaces, elements, and structures, in relation to the requirements to be met. See also, on the concepts of requirement, requisite and performance: Maggi [14]; succinctly: Cucurnia [3].

[4] See for example: [4, 7].

– advances in knowledge on the relationships between perception and needs,
– the definition of operational guidelines in keeping with the knowledge acquired.

What has been hitherto discussed is intended as a contribution in this sense.

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