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The Forms, the Architect, and the Act of Doing Architecture

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ABSTRACT. The paper develops a reflection on the act of doing architecture under an ontoepistemological structure. The analysis is focused on how both experience and conception must be considered in the architect's being evolution to develop significative and sustainable architectural design process activities. Under the *subjectobject* existentialism, the direct realism from John R. Searle, the concept of 'gesture' from Vilém Flusser and the phenomenological thought from Juhani Pallasmaa, it was identified that there is an interdependence between experience and conception in the architect's work, even when he is not directly in an architectural design process mode. The main conclusion is that the architect's activity, despite the progressive "disconnection from the world" – potentiated by the society of information –, should be a product of his expression of *being-in-the-word*.

1. Introduction

With *The Forms, the Architect, and the act of Doing Architecture* it is intended to understand how the relation between experience and conception can support the architect's ability to project buildings, even when he is not directly in an architectural design process mode. For this approach, there are presented some observations/analysis on how an architect can do his complex activity through the scrutiny of some *form* expressions (*idea-form*; *project-form*; *physical-form*) that can justify qualitative interferences (in)directly in the architectural design process considering how we organize knowledge due to our embodied relations with the world: mind→body→world and world→body→mind. The paper is organized in three main parts: 'Form' and the *forms*; About the architects' idiosyncrasies; How *to make* in the act of doing

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architecture. The first pretends to contextualize the 'form' concept as things' *appearance* and *structure*, and how this can contribute to the act of *making* architecture as an act of *freedom*. The second is a summary about how the architect emerges from the builder and how he establishes a new relation with the act of *making* the building. The last one is where is developed the statement that even today it is possible to understand the architectural project design not only as an act of doing, but also as a process of *making* something.

2. 'Form' and the *forms*

> Few terms have been as durable as 'form': it has persisted since the Romans. […] From the outset the Latin forma replaced two Greek words: *μορφή* [morphé] and *εἶδος* [eidos]; the first applied primarily to visible forms, the second to conceptual forms. This double heritage has contributed considerably to the diversity of meanings of 'form'. (Tatarkiewicz, 1980, p. 220)

The Greek words *μορφή* (*morphé*) and *εἶδος* (*eidos*) are the word 'form' root, and they can be used as a conceptual departure to the world interpretation, to inquiry it's truth. In architecture, the term 'form' is relevant to the discussion about the architects' work, especially based on the truth of form and its essential and internal structure.[2]

Truth is fundamental for knowledge. Truth is one of the central subjects of philosophy and is fundamental to knowledge when we seek to articulate the *appearance* and *structure* of things, under the complexity of the world. (Morin, 2017, pp. 20-23). The *appearance* corresponds to what is material and has a physical nature. *The structure* corresponds to what is not palpable, which is beyond physics but, under thought guidance, it is possible to get understandings about its natural or artificial ontologies.

In a world as an inseparable whole, the appearance and structure are indispensable parts in physical and metaphysical contexts, allowing to amplify their things ontologies recognition,

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[2] This perspective has reference to the critical perspective of Josep Maria Montaner, in *As Formas do Século XX*, in the thought of Henry Focillon, in *The Life of Forms In Art*, or even in the philosophy of Aristotle, in *The Metaphysics*.

especially under the unitary spectrum of mind-body scrutiny.[3] This integrity enhances the establishment of a greater organic relationship between subject's subjectivity and things' objectivity that exist independently of any human experience.[4] Therefore, the building objective ontology can be developed through a plurality of approaches, under the guidance of our subjective ontology. In this context, the concept of "form" and its conceptual structure is decisive.

When inquiring about the forces that organize a mountain or those that structure a building, it is possible to develop the following considerations: in the mountain, we can recognise that it justifies *physical-form* as *essential-form* – or essential substances expressed through matter when is strictly related to nature's laws –, which in this case, is prior to any human action; in the building, we can recognise that forces determine *physical-form* as the articulation between the *essential-form* – from which all the raw materials come – and the *idea-form*, associated to the thought and to the culture – as an immaterial factor with the inherent potentiality to transform reality.

Man is not the only animal to produce actions in nature, however, it is exceptional if we consider that the intentional action of *making things* is related to beliefs, desires and hopes, that are derivative intentions, thus linking it to the complex thinking/culture. By *making*, Man transforms pre-existing physical forms (natural or artificial) into different ones. Through *making*, we humans have asserted ourselves for millennia as producers of artificiality, where the ontology of *physical-form* passes from a *pure* state – in which matter remains in its natural definition – to a *contaminated* state – in which matter is shaped through thought that takes place between intentional actions. For example, the conversion of stone into ashlar represents an intentional action, but not isolated in a context of coherent organization that is intended to be projected into space, an ashlar makes sense as a component together with other components that are articulated into a whole, configuring an ordered and hierarchical form, as occurs in the

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[3] This statement does not intend to formulate a type of theory of truth. It simply seeks to recognize that, because the worlds complexity, there are different ways of constituting knowledge, however, we intend to highlight the potential of the truth quality if we consider the mind and body as inseparable against the dualist conception.

[4] John R. Searle, in *Seeing Things as They Are*, shows how perception – considered as veridical experience – is framed by two different phenomena: "[…] an ontologically objective state of affairs in the world outside your head and an ontologically subjective visual experience of that state of affairs entirely inside your head. The former causes the latter, and the intentional content of the latter determines the former as its condition of satisfaction" (Searle, 2015, p. 17).

Tomb of Newgrange or in the Stonehenge site. Intentional action is, therefore, one action among several, which in their entirety could be synthesized in the act of building the *idea-form* or *making* a *thing*.

When searching for *What is Architecture?*, through Demetri Porphyrios, we find that the building is the synthesis expression between "necessary and freedom".[5] The *idea-form* is the departure point to achieve *freedom* within the world adversities. *Freedom*, here, is a kind of liberation from the necessities strictly related to our survival condition. To achieve that liberation, humans, through their complex thought and action in the world, recognized or conferred "specialness" to some objects, using the ability of what Ellen Dissanayake named as "making special"[6]. As a cultural expression, the objects that have "specialness" bring together intentionality and meaning to human existence.

Architecture can be a product of this "making special" since ancient cultures, because beyond *necessary* – as an expression of *utilitas* and *firmitas* – there is *freedom* – as an expression of *venustas*. Here the aesthetics requirements introduced an important contribution to the *build-form* meaning.

3. About the architects' idiosyncrasies

Perhaps the being-architect genesis is related with our necessity to build objects to survive under an intentional action of *making special* and, thus, seek to attribute relevant meanings to the built form.[7]

At the beginning of Humanity, the action of making was based on practical knowledge or *phrónēsis*, and those humans who organized and structured their inhabited spaces became progressively more capable of producing artificiality, even immersed in nature.

Later, in the classic antiquity dawn, *phrónēsis* gave place to *technē* in the structure of

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[5] "It conveys a sence of the necessary because order is delimited by the form-giving capacity of the materials used; and a sence of freedom because it is bound by rules which are made as tokens of recognition of ourselves as *homo faber*" (Porphyrios *in* Ballantyne, 2001, p. 137).

[6] The "making special" is associated with the "[…] metaphor in that it is saturated with symbolism, the creation of another world in which once ordinary things acquire the potency of standing for extraordinary things" (Dissanayake, 1990, p. 89).

[7] In this case, it is important to understand the meaning within the scope of what architecture can enhance for everyday experiences, when the form of the building is constituted – in reality. (Español, 2007, pp. 105-113).

making. At this point, in Greece, the *Tekton* used several ways to objectively transmit his ideas to the *tektonai*. The act of *making* a building became an act of *doing* through the project activity, supported by many and possible analogic representation mechanisms: drawings[8], or real models[9]. These mechanisms of thought support, which can be also understood as products of *entelechy*[10], can be called as *project-forms*. They represent some process parts that express the intention to transform what was merely in potential (matter) into 'appearance' (building). It is important to mention that both the drawings and the real models are constituted by the direct movement/action of the body in space to register them on certain material supports.[11]

The physical proximity between subject and object throughout the process of *making* undergone changes with ancestral *technē* transformations when it became divided in "liberal arts" and "vulgar arts". The *Tekton* became the *architectus* who, in the context of the "liberal arts", dominates the theoretical principles to transform reality. The form ontology ceased to be centred only on the practical wisdom rationality, depending on theory and its universal knowledge. In this circumstance, to the *architectus*, the *how to do* the building became central.

Later, after the medieval interregnum, the Renaissance allowed the *architetto* to realign with the Roman classic culture, and with a humanist stance, became the first expression of the architect activity as we know it today. In this context, the building prefiguration, through the *project-forms*, acquired a relevant roll in the building process. The *project-form*, inherently a communication mechanism, also became a capital interface between the immaterial abstraction and the world material complexity.

Architecture, as a synthesis between construction and meaning, is the result of a process that integrates the constraints of idealism and materialism, and, therefore, reveals the importance of grounding the *idea-form* itself, as Mark Gelernter shows in *Sources of architectural form*. The architectural project process is influenced by epistemological structures under the subject-object duality, which guarantees the architectural forms the

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[8] "Their use [the drawings] was most probably limited to architectural details, while the architectural concept would be taken for granted, though a series of building types that changed very slowly over time" (Koutsoumpos *in* AA.VV., 87, 2020).

[9] See *The Dancing Column* (Rykwert, 1999, pp. 190-192).

[10] *Entelechy* is one of the five concepts that Władysław Tatarkiewicz research in his *A History of Six Ideas* (Tatarkiewicz, 1988, pp. 253-278).

[11] This movement is intrinsically related to our existential space: "Our hands move almost constantly. If we were to record the lines the hands draw back and forth, for example, on video, we would have an image of our being in the world. And we do actually have access to such a video: the world of culture" (Flusser, 2014, p. 34).

possibility of being interpreted as "creation" or as "knowledge". The architect, as a scholar, must deal with this duality. Gelernter hypothesizes that the architectural design process is associated with both parts, however, he recognizes that in architecture history they have not been associated (Gelernter, 1996, pp. 28-29).

4. How *to Make* in the Act of Doing Architecture

The subject-object problem identified body and mind as two autonomous domains, however, more recent neurosciences studies showed that both are interdependent.[12] The recognition also allows to consider the subject/world interdependence through mind-body integrity, which highlights the existential complexity of the subject. In this way, the body – as a physical totality that includes the brain – is a psychobiological unit, whose ontological essence is important to structure the knowledge of the World. Something that motivates the revision of the Gelernter scheme (Fig. 1).
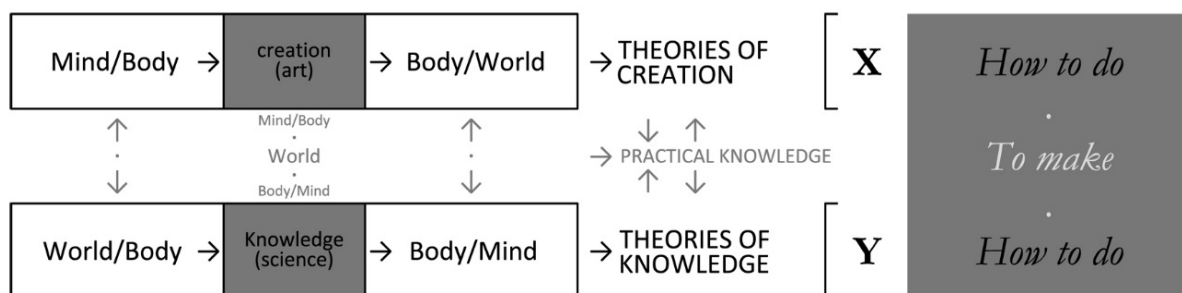
Figure 1. Review of Mark Gelernter's theoretical scheme.

The new perspective is articulated by John Searle's theory of perception, where the world ontology exists independently of any human experience. These highlights practical thinking, in which its pragmatism stems from the relationship between perceived objects (ontologically objective) and the subject´s experience (ontologically subjective). In this circumstance, matter, form, and space are unavoidable constituents for a well-balanced ontoepistemological system, which can be called as *subjectobject* (Fig. 2).

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[12] "Taking into account its totality – from the thin mantle of gray matter scrunched along the inside cavity of the cranial vault to the nerve cells in our feet – the brain is a fully embodied entity. It is a physical entity but at the same time its whole is greater than the sum of it electrical and chemical events" (Mallgrave, 2011, p.2).
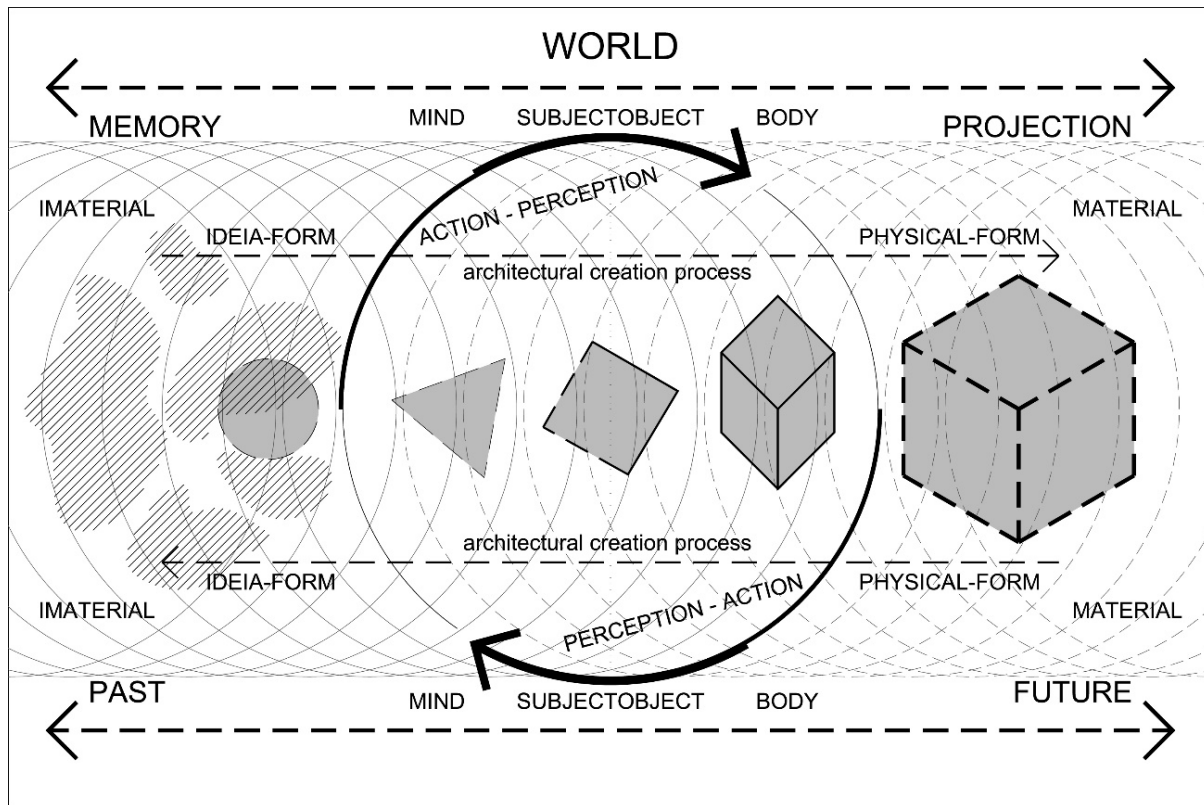
Figure 2. Ontoepistemological complexity of the *subjectobject* system (dynamics of the creative process in space-time).

Today, the architect is no longer the builder,[13] so the *subjectobject* system can only be a heuristic referential to some architect's project design methodologies. In this circumstance, a significant contribution is to integrate, for example, phenomenological and existential thinking in the architectural design process investigation of the process itself. Examples of this type of approach are the research processes of Peter Zumthor or Steven Holl.[14]

The *subjectobject* system presented here seeks to introduce a greater balance in the ontoepistemological unity in the context of the current processes of doing architecture, above all, contextualizing a greater contribution of practical knowledge – associated with artisanal

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[13] Like in Antient Greece (*Tekton*) or in the High Middle Ages (Master Builder).
[14] "Without a doubt, this interpretation of the last twenty-five years, one of the greatest innovations and contributions in architecture was the gradual importance given to the senses, perception and human experience" (Montaner, 2015, p. 52).

know-how. Because today, "seeing with your mind's eye" is valued, any attempt to implement an almost artisanal approach to architecture would certainly have few consequences in terms of efficiency and productivity.[15] Even so, today it is possible to establish the *intertwining* between *making* and doing actions within the architecture project design process. Although it appears to be a paradox, the *intertwining* may be constituted through the project design development in its distinct structures of thought, but under the direct body contribution in the respective cognitive processes. This contribution results from the movement of the body in space to develop and to read palpable registers (drawings and real models), necessarily, define ways of calibration between our subjectivity and the objectivity of the world. Therefore, the contribution of the body is essential for the *idea-form* conversion into *project-form* and, *vice versa*, since from drawings and models a critical perception is established enhancing dynamics of greater awareness about certain objective ontologies that are intended to be achieved.[16] The embodied experience of the *project-form* is, therefore, a fundamental exercise, especially for those who produce analogue registers – because, these *forms* are like the several metamorphoses that clay undergoes in the potter's hand, and which permit permanent "material consciousness" while revealing the *thing* brought from the *idea-form*.[17]

To produce a certain well-balanced architectural design process (as a process that will produce an *extraordinary thing*), the architect's body/mind cohesion is necessary. It is an organic cohesion that is guided through different types of intentionality throughout several *gestures of making*, using Vilém Flusser's concept.[18] These *gestures* should produce analogue *project-forms*, which will express the externalization of something that is subjective into

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[15] Most human activities have come to depend on an elaborate series of management procedures that turn labor chains into a complex and interdependent structure between different, very specialized areas and, alongside this, over the last fifty years, we have also witnessed a progressive massive information digitization.

[16] Examples of the identities of the thing intended to be constituted are questions of *form*: 1. in a rigorous drawing, drawing a 20 centimetres straight line by hand with an *gesture* – coordinated between hands, arms, torso, head and eyes – establishes a proportional analogy between the real world (body) and thought (mind); 2. in a model, positioning the body in a certain orientation to understand a specific perspective point of view and, thus, in this case, again by analogy, projecting the imagination for the experiential simulation of the space to be built.

[17] For Richard Sennett, in *The Craftsman*, this condition is related to the fact that the craftsman is "[…] engaged in a continual dialogue with materials" (Sennett, 2008, p. 125).

[18] "The gesture of making has a complexity that defies description. But for didactic purposes, the gesture can be divided into simple phases. Simplified in this way, the gesture of making may be described something like this: both hands reach out toward the world of objects. They grasp an object. They tear it from its environment. They press on the object from two sides. They change its form. The simplification consists solely in focusing attention on the hands. For the whole body (and, on another ontological level, the "mind" as well, when it becomes impossible to ignore) surely participates in the gesture of making" (Flusser, 2014, p. 34).

something that aims to be objective – existentially – more accurately.

Considering the last arguments, anchored in the concept of 'gesture', it is possible to say: while we are doing architecture, we are also *making* it whith our body. With this *making*, by producing and managing *project-forms* under what Juhani Pallasmaa calls "the thinking hand", the architect is a kind of craftsman, who tries to directly articulate his subjective ontology with the object's ontological objectiveness when he is creating it. This perspective of doing architecture is related with what Pallasmaa refers to "embodied thinking" and more precisely with "existential knowledge". To clarify this within architecture, he recurs to the poet words:

> For verses are not, as people imagine, simple feelings […] they are experiences. For the sake of a single verse, one must see many cities, men and things, one must know the animals, one must feel how the birds fly and know the gesture with which the little flowers open in the morning. […] And still it is not yet enough to have memories. One must be able to forget them when they are many and one must have the great patience to wait until they come again. For it is not yet the memories themselves. Not till they have turned to blood within us, to glance and gesture, nameless and no longer to be distinguished from ourselves – not till then can it happen that in a most rare hour the first word of a verse arises in their midst and goes forth from them" (Rilke *in* Pallasmaa, 2009, p. 120).

Rilke's poetry emphasizes the density and depth of feeling associated with "existential knowledge." To reveal the essence of things that exist in the world, the act of experiencing is the necessary condition, however, using Merleau-Ponty's philosophy, this experience must be "incarnated"[19]. The power of the words highlights the importance of the intensely lived space, because only in this way can any experience develop a greater possible approximation between the objectivity and subjectivity of the ontologies involved in the action. This condition of "embodied experience" reveals the importance of Vilém Flusser's "phenomenology of gestures," especially what the body movement in space means for the evolution of the subject throughout its existence. The meaning of space is the expression from our relation with space

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[19] "For Merleau-Ponty phenomenology made possible the recognition that the body is not an object amongst objects, to be measured in purely scientific or geometric terms, but a mysterious and expressive mode of belonging to the world through our perceptions, gestures, sexuality and speech. It is through our bodies as living centres of intentionality, he consistently argued, that we choose our world and that our world chooses us" (Kearney, 1994, pp. 73-74).

(and with all the *things* in it), the way in which we move in it and, thus, constitute and manifest our existence through body-mind integrity in space-time. This observation will be more pertinent if we associate the following epistemological condition: "Knowledge is any state in an organism that bears a relationship to the world" (Plotkin *in* Pallasmaa, 2009, p. 116). Therefore, the manifestation of existence in space is also in itself the support of thought. According to Pallasma:

> The dancer and the soccer player 'think' with their body and legs, the craftsman and sculptor with their hands, and composers with their ears. In fact, our entire body and existential sense participate in all processes of thinking (Pallasmaa, 2009: 116).

In the case of the architect, how important can this ontoepistemological context be?

As we have seen, the architect's work process can be the expression of *making* things with his hands, just as the potter transforms the clay shapeless mass into ceramic objects. However, we also recognize that this metaphor, although partially possible, in the architectural design process heuristics context, has its limitations in contemporary times, due to the labor structures assumed by society and the digitalization of information dynamics, which shows a progressive "disconnection from the world"[20].

The architect, as a creative subject who does not produce directly his work-objects, has at his disposal mechanisms that allow him to effectively communicate the product of his thought about the buildings he intends to create. Even so, and despite recognizing the value of some *project-forms*, we cannot ignore the major contribution from the existential dimension of embodied memory to the architectural design process.

> Remembering is not only a mental event; it is also an act of embodiment and projection. Memories are not only hidden in the secret electrochemical process of the brain; they are also stored in our skeletons, muscles and skin. All our senses and organs think and remember. (Pallasmaa, 2020, p. 94).

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[20] The 'disconnection from the world' is a concept contextualized in André Barata view about 'the limits of the human': "Without a body, or at least without a specific, intimate body, without death, or at least without the certainty of its arrival, we could reasonably expect the more basic conditions of existence – our place in time and space – are being or will soon be transformed" (Barata, 2017, p. 154).

The embodied memory represents a heritage of experiences and knowledge. For the architect who deals with the space organization, this memory should not be ignored, because it improves the qualification of any *idea-form* meaning that is intended to be transformed into a *physical-form*. In other words, the way the world is experienced interferes with the world that is intended to be transformed. An architect is not expected to experience all the humanized spaces and buildings in the world and, only then, he is able to do architecture. Such a radical condition would be impossible. But, on the other hand, it is possible to consider that the experiences of several different spaces are significant and should have great embodied meaning for an architect. For example, when comparing the experiences from visiting the Rietveld Schröder House (1924), the Villa Savoye (1928) or the Villa Müller (1930), all the three houses space concepts are not abstract, although, after experiencing the buildings, we can conceptualize them. The confrontation with the dimensional, material and environmental realities of space contributes decisively to a greater awareness of its existential condition. Because, these components, structured by topological schemes, will constitute a kind of referential matrices to the subject organizing subjectively what objectively may exist outside his body. Therefore, they contribute to the organization of potentially deeper knowledge about the real complexity. In this sense, we understand space as a system of relations that derives from our positioning relative to *things*, as Norberg-Schulz observes:

> In our daily life we hardly talk about "space", but about things that are "over" or "under", "before", or "behind" each other, or we use prepositions such as "at", "in", "within", "on", "upon", "to", "from", "along", "next". All these prepositions denote topological relations. (Norberg-Schultz, 1996, p. 420).

For an architect, the 'positioning relative to things' is simultaneously the starting point, but also the point of arrival, because body contributes to the thought structuring, and it is precisely from thought that the body structures any *gesture*, including the act of *making* architecture through the support of the analogue *project-form*. The architect's relationship with the real world is

something that should not be questionable, even considering the virtual world existence.[21] Therefore, one cannot disregard the entire heritage of experience stored in body memory to use it in the production of information, in order to guide transformation actions in the existential space. This allows to manage one own physical-intellectual identity in a well-balanced way through the *gestures of making* – even if the actions of *making* products are not precise and rigorous, they allow the architect to be-in-the-world.

The architect is a world *maker*. However, while the potter transforms the clay, the architect's transforms the support of human artificiality itself: the *dweling*.[22]

5. Conclusion

The architect, being the *maker* of the world, more than 'thinking' with his hands, he must 'think' with his entire presence in the world: body-and-mind. It is the ontological totality (objective and subjective) that allows him, through the interdependence between experience and conception, to project buildings, even when he is not directly in an architectural design process mode. From the simple experience in his everyday life (as crossing the same street near his office or cooking in his kitchen) to a more exceptional one (as visiting the Sagrada Família or the Louvre Museum) he is getting important knowledge to his main activity: the architectural design project. This kind of knowledge is significative, perhaps more relevant than the one that can be in texts, photographies or other supports. With space experience the body contributes to the thought structuring and, by that, the thought, using embodied memories, can contribute to the body movements in order to structure any *gesture of making*, including the act of *making* architecture. The basis for the mutual structuring derives from our positioning relative to *things*,

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[21] Simulations of forms in digital space cannot replace real space to carry out the *gestures of making*, as happens with analogue *project-forms*, where, for example, the *gestures* of *construction*, *examination* and *decision*, play a fundamental role in guaranteeing ontological affinities between the creator and the represented object. For this purpose, Marco Frascari observes: "During the use of today's mass-marketed digital modeling, drafting, and designing tools, there are no tasks that require more than a negligible conscious attention. The monotonousness of the long processes of hatching, cross-hatching, scribbling, and stippling have been removed and replaced by the click of the mouse. […] The result is efficiency. Yet, it eliminates part of the original experience. No longer is there time for a mind to wander, no more a daydream appears during the rendering of the surface of a facade with whirling, scribbling, or cross-hatching shadow. The time to dream over a drawing has been efficiently, almost surgically, eliminated" (Frascari, 2011, p. 153).

[22] Andrew Ballantyne when trying to answer the question 'what is to dwell?' through Heidegger's philosophy, he observes: "One dwells when one is properly engaged with one's place in the world, having a sense of the heaven and the earth, gods and mortals. […] And learning to dwell is primarily about thinking, rather than having a house" (Ballantyne, 2001, p.16).

or topological relations. The way each one lives the experiences and articulate the objective and subjective ontologies derives from each person's sensitive nature. When the architect is in an architectural design process mode, the act of transforming the *idea-form* into a *physical-form* can be a kind of doing architecture by *making* it. He is able to exteriorize his abstract knowledge through special *project-forms*: analogue drawings and real models. These palpable documents, made by the *gestures of making*, are important components for well-balanced architectural design process, that potentiate an *extraordinary thing*. It can happen because this architectural design process has a heuristic based on a well-balanced ontoepistemological structure: the *subjectobject* system.

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