

論文の内容の要旨

Thesis Summary

論文題目

Architecture as Prosthesis: An urban evolution through the extension of architectural identity

(義肢としての建築：建築のアイデンティティの拡張による都市の変化に関する研究)

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What do architecture has to do with prosthetics? From an orthodox perspective it has little to do, especially if we would regard both as isolated terms contained strictly in their own universe. Adopting such position would facilitate us to first understand certain substantial components of both, but would omit simultaneously the cultural and historical constraints in which they are embedded. Swiss historian and critic Sigfried Giedion, addressed architecture from a more holistic perspective in his seminal book *Space, Time and Architecture* [1], as a practice that springs and is product of all sort of factors anchored in a historical moment. He labeled architecture as an “index” of a historical period and recognized it rather as an organism itself, with “its own character and its own continuing life”. Moreover, he acknowledged the capability of architecture to extend its influence beyond its period of creation.

Gideon’s argument of “architecture as an organism” more than a half century ago, still allows us today to revise the discipline from an anchored viewpoint, one that is also related to other concepts such as the idea of natural and artificial and the subtle line dividing them. By establishing this syntactical relation, he opens new possibilities to elaborate and approach fundamental questions within the architectural discourse and expand in other directions. Manuel de Landa for instance, sheds light in the flows of matter and energy that are needed to sustain an organism in a given environment, accumulating and releasing these flows in a chain of production and consumption [2]. In the same fashion, buildings and people in our contemporary cities pass from playing the role of consumers to producers endlessly. On top of that, the urban phenomena becomes more complex by recognizing the fact that we experience

natural and man-made environments as a continuous realm, in a sort of theatrical stage where living bodies perform their everyday-dance as urban actors.

Some years later after introducing his first arguments about the organic in architecture, Gideon also aimed to understand the effects and evolution of mechanization in Western civilization (3). In the process of tracking meticulously the history of mechanization, he entered simultaneously into other methodological operations, such as breaking down the machine into its basic components and understanding the relations of the parts and the whole during its process of production. The overall idea of Gideon's research in *Mechanization Takes Command* aimed to suggest a better balance between human life and technology, portraying him as a forerunner of functionalism in the early 50's. However, what he was suggesting was in fact that "the special task of architecture was to leap from a rational-functional mode to an irrational-organic one" (4).

In synchrony with Gideon's arguments, when reading buildings either as living organisms or as the product of a mechanized culture, this research also aims to evaluate their performance not only within a given environment but as part of a *milieu*, "a place that has all the preconditions to generate a flow of ideas and inventions" (5). I would like to be emphatic in the fact that the human body as much as the machine become extended when interacting with other entities inside such milieu.

Furthermore, what I attempt firstly with this comparative approach is rather a deliberate methodological instrumentation of metaphorical thinking. From Metabolism to Functionalism, the use of metaphors in architecture theory have served extensively to create alternative frames to understand the urban phenomena, sometimes evidencing new aspects which were unseen from previous approaches, but sometimes also creating superficial correspondences that end up misleading its use and purpose throughout the rethorics of the discipline. As Hans Blumenberg refers, "metaphorology" is not a discipline by itself but "part of a larger disciplinary frame" (6), being more a tool to be used into an interdisciplinary discourse.

It is within the context of metaphors that I would like to reconsider the prosthesis not only as a mediator between the organic and mechanic, but as a relevant term to highlight diverse aspects happening in the urban phenomena. By accepting the possibility of reading buildings as bodies, affinities and dissonances are stressed in order to create an alternative terminology that allows us to identify and assign specific functions to the components of our "metaphorical bodies". From framing the original body as the object of prosthetic operations, to the additive elements that "prostheticizes" it. This research would also like to acknowledge the many possibilities a human body can be framed; whether from its morphological

and material features, its interior and exterior qualities, or its “*syndromes*” and “*sympmatologies*” when performing in a given environment.

Through the process of scanning the body to detect specific urban symptomatologies and its different relations with prosthetics, a first question emerges: What triggers the extensions of these bodies through prosthetics?

Essentially, the prosthesis can be seen as a replacement device used when the original body has lost a component. Its function and position in the whole body are important to determine what kind of prosthetics should be used. For instance, in the case of an extremity as an arm, it is a component with multiple functions that facilitates the interaction with an immediate environment that contains simultaneously other bodies around us. The arm itself has other sub-components that perform together to achieve specific functions. The hand for instance, along with other components such as mouth and ears can also allow us to convey functions for communication. Hence the implementation of one or various prostheses in a body should primarily prioritize specific functions to recover.

I would like to consider a second possibility for the implementation of a prosthesis in the body, transcending the mere replacement of a lost component and focusing rather on the enhancement of the existing capabilities in a body. From something mechanical as a bicycle to something technologically more advanced as a smart phone, these tools perform along with and extend our bodies. A bicycle for instance allows us to reach speeds that our bodies would never be able to achieve. This is only possible through the interface between organic (the body) and mechanic (the bicycle) entities. Its time implementation in the body is much shorter (and thus softer) than a component that has been specifically designed to replace a lost component. In the case of technological devices, they also extend our bodies to the virtual realm, allowing us to communicate with other bodies in other physical locations.

It is also important to acknowledge the cultural and material evolution that prosthetics have experienced along history, passing from analogical aggregations in the beginning to more technological devices in recent times. While both tendencies will be considered, this research will put more attention to the contemporary condition of the prosthetic body, one that I pursue to read as an entity that is subject of continuous processes of hybridization and reconfiguration. This tendency is gradually blurring the boundaries between the natural and the artificial, questioning the ambiguous condition of the prosthetic body today.

From human to urban prosthetics, what I attempt to achieve is not only a translation of terms from one discipline to another, but a whole theoretical framework that allows this research to conceive an urban theory that can reconcile ideas from the organic and the mechanic theories in urbanism, an approach that we would like to coin as “Prosthо-urbanism”.

Some authors have suggested that metaphors are context-sensible (7), hence the cultural and material background where to apply them is determinant for the construction of any argument. Given the volatile urban conditions and scale of its components, for this research I will focus in specific areas within Tokyo as my main field of study. I attempt to create an alternative theoretical discourse for the evaluation of specific elements that aggregate to buildings. More specifically, I will make observations in some commercial areas where sign-boards dominate the visual landscape. This is with the intention of finding differences in recurrent elements that add to buildings and to understand how they organize. Moreover, I will attempt to show that the most significant contemporary condition of the prosthesis in the body is the identity that it confers to it.

In Chapter 1 I introduce the relevance of the use of metaphors in the way we construct arguments (not only in the architectural discipline but in rhetorical thinking in general), along with etymological and fundamental ideas of prosthetics, essentially borrowing a term originally coined and used in medicine and orthopedics, with the aim to transplant it into an urban discourse. I have also identified specific features that diverse authors refer and highlight regarding the topic of prosthesis and prosthetics in general and in architecture. In Chapter 2 I suggest the possibility of reading ideological connotations in the use of the word. I have suggested that there are linguistic resonances in the Greek root ‘-thesis’ and the character (kanji) used in Japanese language, which is used to refer the word ‘prosthesis’ and ‘ideology’ (‘-ism’) simultaneously. When used in architecture and urbanism, this can support the possibility to read in the ‘-thesis’ of the prosthesis a ‘position’ from an ideological perspective. I have also embraced a particular theoretical frame for the prosthetic body in Chapters 3 and 4. One is the city as a mutant entity, whose technological aggregations reconfigure the original body until the point of turning it into a ‘monstrous’ entity (something that I perceive as a positive asset, rather than the negative connotations that some people can understand from this term). Moreover, I also argue that the nature of such monstrosities is essentially eccentric; not only as a result of prosthetic accumulations but as a relevant feature that confers a unique identity to the ‘prostheticized’ body, rooted in historical and cultural values. Chapter 5 condenses what I understand as the principles of Prosthо-urbanism, a theoretical term in urban design that I have coined to embrace the ideas and ideals that I have presented in previous chapters. In Chapter 6, I will also introduce mapping from city observations in four commercial districts of Tokyo and evaluations that can support my thesis: Aggregative elements seen as prosthetics in buildings are one of the central factors that contribute to the mutant nature of the city, creating visual and spatial reconfigurations in short spans of time.

REFERENCES

1. Giedion, S. 2008. *Space, time and architecture: the growth of a new tradition*.
 2. De Landa, Manuel. 2014. *A thousand years of nonlinear history*.
 3. Giedion, S. 2013. *Mechanization takes command: a contribution to anonymous history*.
 4. J. M. Richards, The Next Step, *Architectural Review* 107 (Mar. 1950), 166.
 5. Landry, Charles, and Franco Bianchini. 1994. *The creative city*. The Round, Bournes Green Near Stroud, Gloucestershire, England: Comedia.
 6. Blumenberg, Hans, and Robert Savage. 2016. *Paradigms for a metaphorology*.
 7. Hauser, Susanne. *Skins in Architecture. On Sensitive Shells and Interfaces* in Gerber, Andri, and Patterson, Brent. 2013. *Metaphors in Architecture and Urbanism. An Introduction*, Verlag: [transcript]
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