Performance and architecture: review of design process in digital culture

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Abstract

The paper has as objective present the results of research in design processes considering the aspects o*f performance* as medium of central decision and, thus, responding to aspects of information organization and communication in the digital era. The research is linked with the activities of the Nomads.usp – *Núcleo de Estudos de Habitantes Interativos* (Nucleus of Study of Interactive Inhabitants), linked to the *Instituto de Arquitetura e Urbanismo* (Urbanism and Archtecture Institute), *Universidade de São Paulo* and it is founded on the research lines: hybrid spatialities, design process and communication processes. It corroborates the Usman Haque (2010) statement that "it is not possible to think architecture as something steady and immutable. Instead of this, we should see it as something dynamic and agile". We realize that, currently, what shall stimulate a contemporaneous architecture production more adequate in the cultural context is the revision of the design process itself, aiming to deal primarily with questions of *performance* as a guideline for the functional, organizational, material and formal definitions of the architectonic objects.

Keywords: project processes, second order cybernetics, *performance*.

1. Introduction

Since 2001, nomads.usp explores methods of organization and communication in design processes mediated by digital technology, where the research activities, extension and teaching are understood as complementary activities which interfeed each other. Thus, teaching activities deal with question of the architectonic conception with the digital culture, while the extension ones allow exploring transdiciplinary methods. Complex theories include transdisciplinary postures structuring research. Researches conception, multidisciplinary and, oftentimes, multicultural, combined with the situation of the São Carlos campus of the University of São Paulo, with Engineering, Computer and Physics courses and relations with research groups in the area of cinema and information sciences of the Federal University of São Carlos, allow the formation of multidisciplinary teams. This way, it is possible to explore the design processes, feeding methods such as, for instance, Second Order cybernetics, integrating advanced technologic possibilities and pedagogical, cultural and social issues related to the media. The ultimate purpose is to develop an architecture capable of answering the needs of our time, considering the man, the devices and the environments – which, initially are treated separately – finally, together.

Architecture has been transformed by evolution of the research and universes recently developed in communication, interaction, computational graphic, prototyping, tangible interfaces, mobile connectivity and other mediating processes that involve the design. These technologies alter our spatial perception and change the way we relate to one another. We realize, currently, the contemporaneous architecture production also culturally responsible is the revision of the own projectual process, aiming primarily to deal with *performance* issues as guidelines of functional, organizational, material definitions of architectonic objects.

2. Architecture and Cybernetics: the performance role in the design process

One has to highlight the remarkable investment in software development for information generating system by non-specialist users of the Computational or Information Science Area, as the case of the content management systems (*CMS)* for the internet. In the construction area, agents involved in the production process are confronted with building information modeling *(BIM)* and parametric *design*, which allows a dialogue about the several projectual instances on an integrated modeling environment. The focus in the information management mediated by computational systems tend to stimulate conversation, providing it with greater transparency about the learning dynamics, methodological and research processes and technological application, targeting the optimization need in management and the information

sharing in real time, thus, allowing a bigger integration of several areas, according to an *a priori* transdiciplinary posture.

We believe universities should, in this moment, be this trend introducers and formatives, aiming to a systemic understanding of the parts and of the whole, so necessary in the current world which has sustainability as slogan. The speed of the technological developments, their risk of becoming obsolete and the convergence oblige everyone who takes their chances in this this field of knowledge to confront themselves with technical and economic difficulties and with specific knowledge limitations. In this environment of uncertainty - stimulating and at the same time, anguishing – new tendencies of post-disciplinary creative practices are founded, that transpose the conventional frontiers: "New hybrids of design are emerging. People don't fit in neat categories. They are a mixture of artists, engineers, designers and thinkers. They are in that fuzzy space and might be finding them quite though, but the results are really exciting" (West, 2007, pp.56-64). Still poorly understood, these tendencies may be more visible in the creative process itself, opening it to interdisciplinary interventions because of the necessity of the knowledge convergence.

Purposely we do not relate the digital culture to the mediation of the digital ways only, since it is more about an environment domain and its conceptual questions of perception, interactivity and virtualization. It stands out in Bill Nichols' text, published by the first time in 1988, *The Work of Culture in the Age of Cybernetic Systems*, as an introduction of this problematic. In this text, Nichols compares the creative production in the digital and electronic ages, specially identifying the adjustment of reality through computation means and the question of the organization of information and communication through cybernetics.

> 'We might ask in what way our sense of reality is being adjusted through new electronic computation means and digital communication? […] Have the cybernetic systems brought about changes in our perception of the world that hold liberating potential?' (Nichols, 2003, p.629).

Won't the digital culture prioritize the process of doing and the interaction with its user, before the closed object? The one that produces and the one that observes interact in an open object-system feedback system, modifiable and transformable? Who is who in this process? (Nichols, 2003, p.631) continues:

> 'The temporal flow and the once-only quality of the face-to-face encounter becomes embedded within a system ready to restore, alter, modify or transform any given moment to us any time. Cybernetic interactions may become intensely demanding, more so we might imagine from our experience with texts, even powerfully engaging ones'.

The meta-theory of Second Order Cybernetics presents itself as a methodological basis, which it proposes the observation of the systems, being the observation itself also observed. For that it is used, among others, concepts such as circularity *(loop), feedback*, self-organization

(autopoiesis) and control, making the communication easier among the parts of a system aiming at the balance of the whole, by compensations and adjustments. Scott defines:

> 'Cybernetics is interdisciplinary. It provides concepts and terminology to build bridges between different knowledge domains (Latin "inter" - between). […]Cybernetics is also transdisciplinary. […]Wherever he looks, the cybernetician sees the ubiquitous phenomena of control and communication, learning and adaptation, self-organization and evolution. His "cybernetic spectacles" allow him to see any particular knowledge domain and the systems within it as special cases of abstract, general cybernetic forms' (Scott, 2004, p.1367).

According to the cybernetic thinking, architecture should work as a catalyst to assist the redefinition of relationships and behavioral patterns between people and institutions, extolling a 'passionate' desire to improve human condition. It would have as one of its main features the "non-permanence" and it would be conceived for continuous change. In turn, architects should endow their projects with an anticipatory character, allowing people the chance to shape their own spaces.

One of its main contributions is the hope for more accurate methodology definition that allows an expanded architecture enabling the highlight of the parts, as well as the whole project as process. Such idea moves toward the complexity theory, which includes other theories and methods, such as the information, cybernetics and systems theories. In the past few years, we have invested in the exploration of Second Order Cybernetic theory in complex processes of project management, precisely because the theory has as its focus, the concern with the *performance* in the process and not much with the determined and cut object.

Readers should ask themselves why, today, would cybernetics resurface in the process of architectonic projecting? The control word, present in the cybernetic concept is perhaps the least understood, most controversial and that the one which makes many reject the theory, or find it outdated.

> 'Some people think that cybernetics is another word for automation; some others that it concerns experiments with rats; others, that it is a branch of mathematics; others that it wants to build a computer capable of running the country. My hope is that […] people will both understand, how these wonderfully different notions can be simultaneously current, and also why none of them is much to the point' (Beer, 1959, apud Pickering, 2010, p.13).

To overcome the initial mistrust in the context of developing the new and connect the unknown, the word *control* must be read, according to Beer, within the stimulation of cohabiting and the wish to deal with situations, problems, and complex environments. Cybernetics is actually a very lively meta-theory, constructed and reconstructed by researchers from the most various fields and cultures in his sixty-four years of existence (since 1947), contributing to the totality of the fields of knowledge.

The word cybernetics comes from the Greek *kubernetes*, which has at its meaning the idea of a helmsman. The helmsman controls the ship in a volatile environment and interacts with the objects that may arise. The control in this case is the navigation of his boat in an unfamiliar environment, capable of variation, of unexpected events, changes, etc.. The helmsman should, be attentive and at the same time open to its environment and protect his boat to finally define his actions in the form of responses and of a much needed reorganization.

It is from this definition of control that cybernetics sets off. According to the philosopher Martin Heidegger's words, the linear control of modernity is characterized

> '[...] by a framing posture - the posture of command and control that goes along with what cognoscibility is about, and that assumes we can obtain results from certain determined results from our initiatives in the human world and of materials' (Heidegger apud Pickering, 2010, p,383).

Distancing itself from the project doing with a line of actions to accomplish the goal, cybernetics, "by contrast, points us out to a notion of *design* where everything happens submerged in an animated world that we cannot control and that always surprises us" (Pickering, 2010, p.383).

Andrew Pickering (2002, p.3) establishes a distinction between what he calls *representational* language, focusing on representation and mapping, and *performing* language, which is concerned with the ways of doing things of the world with the emerging interaction of human and material intervention. These two languages can be associated with the theory of knowledge - epistemology and knowledge of the being - ontology where the latter, according to Pickering, will be much more favorable the current practice analysis. The importance of a perspective from ontology brings us back to the current (and problematic) development of technologies and of *software*, particularly the focus on parametric programming, guiding the projectual process with the support of cybernetics. Currently, the main difficulty is to insert and engage performing elements of aspects and socio-cultural data in a predominantly mathematical logical scientific representative framework - while the *designer* programs and feeds a projectual process together with other actors.

3. Designing by conversation

Contemporary cyberneticists as Ranulph Glanville[1] and Paul Pangaro[2], defend the existence of a close relationship between cybernetics, architecture and *design*. According to Glanville (2007, p.1153),

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[1] Ranulph Glanville is an Architect, Ph.D. in Human Learning and Cybernetics, professor at the Bartlett School of Architecture, a member of the Architectural Association, the Cybernetics Society and the Royal Society for the Arts.

[2] Paul A. Pangaro is a bachelor in science, humanities and computer science and a PhD in cybernetics from Brunel University, United Kingdom. Co-founder and CTO of the U.S. company CyberneticLifestyles, Pangaro studied with

'A number of scholars with significant implications both in the field of cybernetics as well as the design one have sustained, throughout the last half century, that there is a significant link between the two of them. Statements made in public and in private, sometimes, have originated founded publications including the ones of Pask (1969, 1979), although more frequently have emerged as comments almost thrown to the wind in other publications. Other works, such as Schön (1983) can be seen, today, as involving essentially cyber arguments'.

In his 1983 work *"The Reflective Practitioner: How Professionals Think in Action,"* Donald A. Schön[3] describes design as "a reflective conversation with the materials of the situation," based on the employment of "knowledge-in-action" in a constant process of "reflection-in-action" (Schön, 1983, p.78). For the author, what would define the ability of the designer in dealing with issues of design would be the employment of tacit knowledge-in-action, in a process characterized by the constant repositioning of the designer facing the situation of the design through reflection on the meaning of the actions taken. It is proposed that, when configuring the problematic situation of the design by manipulating the tacit knowledge that provides meaning to their actions, the designer undergoes a parallel process of questioning and awareness of these own actions. In other words,

'As he tries to make sense of it, he also reflects on the understandings which have been implicit in his action, understandings which he surfaces, criticizes, restructures, and embodies in further action' (Schon, 1983, p.50).

According to Glanville (2007, p.1185), the word "conversation" would have been coined in the context of cybernetics by the cyberneticist Gordon Pask[4] (1975) referring to a common form of communication and experimentation involving the act of speaking and listening to each other in an essentially circular procedure. Thus, the conversation would be

'the fourth essential circular cybernetic system that embodies the features of second order cybernetics. As Pask describes it, the conversation is the basic form of genuine interaction: and this which makes it so important, such a good model of design' (Glanville, 2007, p.1185).

The English cyberneticist Gordon Pask is also reference as forerunner in establishing relations between cybernetics, *design* and architecture, through the 1969 article *"The architectural relevance of cybernetics"* (Pask, 1969). In his researcher career, Pask leaned rigorously on the study of forms of interaction and the processes of learning and knowledge obtainment through

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Pask, participating in his research on computer systems used in the learning process by the application of Pask's Conversation Theory.

[3] Donald Alan Schon (1930-1997) was an American philosopher, teacher and researcher who led throughout his career influential and referential academic studies on learning systems in the context of reflection and professional practice in *design* as well as among several other fields.

[4] Andrew Gordon Pask (1928-1996) is acknowledged as one of the major references of cybernetics, precisely because he was dedicated to the research and its foundations helped its spread with is academic activity and participation in discussions, conferences and universities worldwide. Throughout his significant academic life and research, Pask developed his theory of conversation, considered his greatest work, published in his two books *Conversation Theory, with Applications in Education (Conversation, Cognition and Learning),* Amsterdam, Elsevier, 1975; *Conversation Theory: Applications in Education and Epistemology,* Amsterdam, Elsevier, 1976.

conversational interactions, developing his "Cybernetic Theory of Conversation" in the 1970s. According to Gordon Pask, Theory of Conversation is a theory that deals with the reflective sharing of "concepts" among "participants" about their agreement[5] (Pask, 1980, p.1002). Conversation is defined as an interaction among actors, in which concepts are shared and/or exchanged: "The events of a conversational interaction are exchanges of concepts, at which concepts are made public or shared concepts represented in <a proto-language or proto-logic>" (Pask, 1987, p.19). In other words,

> 'Conversation is information transfer between organizationally closed (alias autonomous systems. It is a mechanism of conflict resolution, which also generates a distinction between autonomous individuals to support a conversation' (Pask, 1980, p.1006).

According to Pask (1975), a "concept" can be understand as the meaning of an entity or a symbol such as a word, for example. We can affirm that the concepts represented by the same entity vary according to particular notions of certain individuals: the concept of "home" to an "A" individual is not the same for a "B" individual. However, there may be similarities between the concepts as "A" and "B" agree with the same understanding, setting up shared or even public concepts that can, for example, correspond to common senses assigned to the specified entity, in a particular social context. On the other hand, in the formalization of Theory of Conversation, the term "concept" also assumes another meaning, representing a stable unit of configuration[6] defined by certain procedures (for example, a set of instructions) that, in action, originates a process which, in turn, generates a determined product. This is how, according to the Theory of Conversation, a "concept" is defined as

> 'a bundle of coherent (logically sticking together) procedures capable of being applied as a process in order to produce a product; this product may be an image, a description, or a behaviour, often all of them' (Pask, 1987, p.21).

The execution of a personal concept, in turn, produces personal behaviors (as riding a bike), implying, in this case, in a development in the physical context of the individual. They can also be carried out only in the mind of that individual producing a description of the particular behavior (such as the imagination of bike riding). The manifestation of this product in a mind as an imagination or description of a behavior or as a consequence implies the execution of a concept, "there is" in fact, "a complementary process-product. If one exists, then the other also does" (Pask, 1987, p.21). Pask also puts it, that qualified for determining behavior, and understanding that the individual has concepts -based skills (as riding a bicycle), can say that concepts are also skills (Pask 1980, p.1002).

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[5] Pask calls the agreement a coherent mutual understanding among participants, but emphasize that this agreement rarely represents a complete agreement. This agreement also would admit the instance of disagreement, such as an agreement of disagreement. Thus, the conversation can certainly promote both the emergence of conflict as well as its resolution (Pask, 1987, p.19).

[6] In Pask's the Theory of Conversation (1975), a stable unit is an organizationally closed system, in a sense equivalent to the biological domain, from which the autopoietic systems would be a particular case (Pask, 1980a, 1980b, p.1003).

As concepts develop stability tend to become fixed, sometimes rooting or ossifying (Pask, 1987). They can also grow and evolve as they revise themselves (by their reproduction) or are enriched by coherently adding other produced concepts, preserving stability as they are productive and reproduced (Pask, 1980). Thus, production and reproduction operations are responsible for the stability of the concepts, and these operations correspond to the systemic notion of "autonomy" or "organizational closure" (closed organization)[7]. According to Pask,

> 'A concept is organizationally closed, a coherent collection of concepts is organizationally closed, a participant is organizationally closed. There is, I claim, a universally conserved action leading to coherence' (Pask, 1987, p.23).

In turn, the term "participant" in the context of the Theory of Conversation, is not restricted to the people´s designations (human individuals themselves), but basically any system equipped with closed organization. Thus, conversations are capable of occurring in relation to different conceptual autonomous organizations, such as conversations among people (individuals), conversations between individuals and cultures, conversations among societies and cultures, and even conversations among cultures (Pask, 1987). Thus, complementarily, it is true that a "participant is organizationally closed but informationally open. A participant is able and inclined to discuss, give and take, come into line with other participants, in short, to talk" (Pask, 1987 , p.23). When talking, the participants re-elaborate and share personal interpretations of concepts that come into agreement or in conflict, becoming topics of conversation, in space or mastery of conversation, which are the participants themselves. Pask makes use of a special representation of that mastery in the form of "entailment meshes", a kind of formalization of knowledge structures, whose basic elements are these "topics". Configuring a entailment mesh, the topics are interconnected by coherences, a set of other threads whose senses are interdependent, that is, are overlapped and conditioned in a derived complementary understanding. In other words, the topics in a link of consistency define each other mutually. Pask's research concerning the mesh link structures trials included a series of practices through computer systems in the 1970s and 1980s, with the cyberneticist Paul Pangaro. Pangaro (2008) strengthens the bound between the project practice and conversation placed by Glanville (2007), based on the Pask´s work (1975) and the conversation concept established by his theories, being emphatic when affirming "conversation is *design*, and *design* is conversation" (Pangaro, 2008, p.2). For the author,

> 'Effective conversation occurs when beliefs are negotiated through interaction and evolve in a framework of goals. Concurrently, goals are

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[7] The systemic notion of closed organization, developed independently by researchers such as Humberto Maturana (1928 -) and Francisco Varela (1946-2001), is in correspondence with the definition of an organizationally closed system, as in the Pask´s configuration of a productive conceptual system, which among other conceptual products, produces its own conceptual operations, providing it with autonomy. According to Pask's definition: "An arrangement is organizationally closed if there is some construction (biological, molecular, conceptual, social) on which productions (DNA enzymes, productive concepts, productive social operations) working to produce. Among these products are their own manufacturing operations. Living organisms, cells of living organisms, ecologies composed of organisms are like this. So are the participants, actors and the societies they inhabit" (Pask, 1987, p.22).

negotiated and evolve through interaction. Such conversations are processes of design. Similarly, design -where proposed constructions are negotiated and evolve towards goals, while goals for the design are negotiated and evolve -is a process of conversation' (Pangaro, 2008 p.2).

This is how, based on the approach of the conversation, we propose to ourselves consider the project process cybernetically, as a series of conversational interactions, in which occur re-directionings of the continuous actions of their actors by the dynamic structures and understandings of the interpretations, front to the problematizations that are established in the designing situation. Thus, beyond the establishment of methodologies, we aim to contribute for an expanded view of the projectual practice that allows us to reflect and discuss the design activity as a whole, given its complexity, in an attempt to establish a background that allows us talk and understand different fields of knowledge in an effectively transdisciplinary direction.

4. The *Design Lab*, or Exploring Black Boxes

The *Design Lab* within the research group Nomads.usp, refers primarily to a physical environment of immersive character in which the *designer* can recreate environments related to the design activity, equipped with tools to conception, 3D modeling and prototyping of small interactive objects. One goal of this lab is to house and produce studies on creative processes in architecture and *design* combining *hardware* and *software* with traditional creation programs and equipment specially designed or adapted, and also with the called CNC equipment one – *Computerized Numerical Control*, composing different instances for the same process of creation.

To provide the space with immersive characteristics the user was given control of the physical laboratory variants, such as light intensity and color of the environment - from the illumination of *LEDs (Light Emitting Diodes)* in red, green and blue colors (RGB palette) with individual intensity control trough dimmer - and the sound of the environment - with the help of speakers installed in the laboratory. With this, it was investigated how the environment project and its characteristics can assist and influence in the design process of these hybrid objects.

Among the existing equipment in this laboratory there are two projectors, a 42''LCD TV, four speakers, two computers with processing configuration aimed at the 3D modeling connected to a server, two video cameras, two 3D mice, which enable navigation in the three dimensional axes, and a digitizer tablet. Each computer is connected to a projector and the TV so that both the TV and projectors can be used simultaneously, expanding the desktop of the computers. In addition, each projector and the TV has a spare USB slot for enabling the connection users´ *laptops* of the room. To minimize the amount of electrical installation cabling and network wiring in the room, all connections among components are housed in troughs located

underneath the floor of the room. On the table projected for the *Design Lab*, standbys of power and optical network were installed to feed the *designers'* personal computers.

The laboratory has a server which in itself has a variety of database computer programs aimed to give the *designer* possibilities of choice of programs for experimentation in 3D modeling, editing images, videos, sounds, to develop interactive objects in various stages, from conception to prototyping, including in these steps the programing and even the production of electrical and electronic circuits when needed. In addition to the conventional Internet, the lab is connected to the advanced network (10 gbps) since the end of last January 2010. With this connection, *designers* can communicate with other audio-visual items in the same network to develop distance projects, as was done in the *workshops* of design performed.

The laboratory also has a prototyping area for development of the physical components of the interactive objects. In the prototyping area, there is an IP-equipped mill that produces rapid prototyping material through wearing and a 3D scanner, which is responsible for enabling the passage of alterations performed in physical models to the digital environment. This prototyping area of work is equipped with a working area and in physical pieces and has the possibility and tools build electrical circuits, enabling the test of parts related to the programming of objects equipped with digital medias.

Allied to cybernetics, l parametric design exploration can be compared to the musical process, concerned with the *performance* of all parts and that stimulates a strong interdependence with so-called black-boxes, which will be fed with content and contexts by their many contributors. What matters in this process are communication strategies for feeding *performance* as a whole, with the dilemma related to who contributes and who decides what is being maintained and transmitted, as what happens in the black boxes, called by Flusser as private space, is inaccessible. The black-box, according to the author, will represent the complex, which could not be understood, and is opposed to the space called by him as the public one, whose structures and functions are understandable and simplified. In this cybernetic model, which sees communication as a process, which shows "[...] all through the publication of de-privatization, "Flusser opposes what he calls a 'computational' model, where public space has a duty to serve the private one. He believes that "The information is, thus, the complexity, and the private's nodes within the fabric of the public are, in short, these unlikely combinations [...]" (FLUSSER, 1998, p. 346).

The opacity of the black-box complexity tends to uncomplex itself in the context of digital culture to "open private space through advertising and thus replace what was opaque, ritualistic by the transparent and scientific, explained through the technique and the causality" (Flusser, 1998, p.350). In the creative scope, Flusser suggests that the activity of interaction between private and public differs in two ways of creating:

'Well, such consideration leads to another one: all the information produced by evolution are variations on a single theme. There are two types of creativity: "variational" and "transcendental." Variational creativity creates new information by varying the information available. The transcendental creativity creates new information by introducing foreign elements ("noise") in available information' (Flusser, 1983, p.84).

The creative output of the second type of communication needs the context of transparency and the partial opening of the black boxes, of a demystification, to become interactive and collaborative, toward one multiple authorship. In the context of digital culture, in which perception, action and communication are the tripod that fuels the collaborative creative process, the need to approximate several black-boxes (disciplinary knowledge) and their openings, even partial, is obvious. It demands a whole new attitude against the use of the environments created and altered by the authors, contributors and users.

The projects are carried out by a multidisciplinary team of trained and in training architects, *designers*, filmmakers, physicists, computer scientists, students and graduates, Brazilians and foreigners. The multidisciplinary constellation allows a constant revision of ideas as well as their execution, enriching processes and products. The importance of recording activities is performed in real time, accessible through a *website*, creating a collaborative environment that allows you organize and communicate the information generated, opening the process to other local and long distance contributions in real time in the future and having the past in perspective. The participation of various researchers on the team itself provides learning and dialogue among everyone involved, producing and exchanging knowledge and promoting an interdisciplinary process. This means that responsibilities are coordinated horizontally. Obviously, this way of working demands, by all those involved a clear acknowledgement of each one within the process, their competencies and responsibilities.

5. *Brave new world,* not so much!

The experiment conducted at Nomads.usp faces, as it was expected, several problems with the university structure and financing, organized by areas grouped in exact, human and biological sciences, which little collaborates, even though they contribute with each other, on request. What we call here as contribution remains, if we want to summarize, the activity of the first order, where its researchers bring their own landscape and are unwilling to deviations of their paths.

Well, the involvement generator demands another level of dedication, of the second order, and that would have to be taught, as Pierre Teilhard de Chardin (2001) correctly said in his text 'See'. Flusser makes a proposal, in the 1990s, comparing the structure that may promote the necessary training actions to an umbrella, remembering that the English word has its roots in Latin, *umbra* where, as a place means shelter, school and study:

[...] It is a piece of clothing that is open to experiences, and that stores experiences. Since ancient times, the screen wall has stored images in the form of carpets… and then as paintings, cinema, television, and now, with the internet, an immaterial wall of diversification: there it is above us, the umbrella" (Flusser, 1999, pp.55-57).

The understanding of the design process from the *performance* leads us to an expanded understanding and non-dualistic objects and contexts. It allows integration of first order observation with the second order observation, in the experience of creative works in the context of digital culture and, thus, an enhanced perception of the world. It is stimulating and challenging, as evidenced by the numerous experiments carried out in the *Design Lab* in recent years. We know that the production, which has at its center the issues of perception, communication and interaction, within a spatiality which overrides the concrete and virtual, the so-called mixed or hybrid space, is complex and requires urgent support both for the formation of authors-contributors in creative works as well as in communication with their users-contributors. The *Design Lab* itself tends to stop being a simple physical structure and a facilitating access to technology and *software,* in favor of a hybrid and transdisciplinary spatiality which, ultimately, has perhaps the purpose of enabling experimenting, which in some academic circles is called the 'Life Science', dedicated to the interdisciplinary integration of the two languages: the representational and performative ones.

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