Interpretation as a design method

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Abstract

Interpretation as a method to be applied by the designer is based on the principle of building a new rationality: constructing material culture, holding as a reference the user, ultimate recipient for the projected product. Interpretation as a method further strengthens the specificity of 'designerly ways of thinking and designerly ways of knowing' (Nigel Cross). With this approach we aim to contribute towards the characterization of an innovative design: neither a singular problem solver nor solely solution-oriented devoid of dialogue with the question, but rather a semantic agent, a designium interpreter, a maker of meanings through the generated forms, a builder of new circumstances and contexts to contribute to human freedom. The methodological processes applied to an innovative design cannot be conceived as a sequential and linear process with no room for questioning or constraints. Interpretation as a method in design practice holds as a model the application of the hermeneutic cycle: a proposal of dynamic reasoning between an initial question (situation, problem) and a final solution. The development of the project takes place vis-à-vis with the context, culture, place, language, use, and these variables interfere with the initial proposal, reinstating and reformulating it. The choice of new and unexpected answers acknowledges the user as dynamic individual and key player in the interaction process between the proposed 'product' and its use. This research focuses specifically on the 'skin of buildings' as city's constituent component. To support that 'the skin of buildings' has a function-meaning we perform a comparative study on the use of interpretation as a method by the designer Daciano da Costa and the architect Carlo Scarpa. One of the outcomes of this approach is that postulating interpretation as a design method characterizes the designer as an interpreter. In our research we intend to address the designer as a role player in the city, intervention scenario, as an analyst of the cultural value of the context, coming upon a sustainable and innovative answer. This approach seeks to justify the use of a method that instead of designing an object aims at construing the object's meaning for the user, hence his relationship with the surrounding space.

Keywords

interpretation design, signification, pattern, material culture, equipment scenarios

Stemming from a hermeneutical perspective on the action and expansion of design we intend to reflect on interpretation design, qualifying the nature of the artifacts through their function-meaning instead of merely by their use-value. In such process, to reflect implies grasping a meaning for the referent. In other words, understanding (in this case the material or immaterial culture) through dialectics among and within all players (people, context, culture, complexity of factors, time) and abduction (logical inference, reasoning to evaluate and explain through the process of attribution of meaning). The first part of this text will present the advantages of interpretation as a method in design regarding other models, using a definition of the concept of design, to justify the hermeneutic circle as a model in the design process. In the second part of the text we apply interpretation design in searching for new solutions in the equipment scenarios, namely 'skin of buildings'. Design reasoning has several meanings, disclosing the abstract nature between conception and attribution of meaning ready for interpretation. Therefore, the exercise of design is competent to interfere with the function-meaning of space and disclose new connotations. Attribution of meaning as process of interpretation of the space may lead us to the understanding of semiotics applied to the design process. To support the function-meaning of the 'skin of buildings' we will analyze two cases of interpretation design, in Lisbon and Venice. To conclude,

we will briefly approach the 'pattern language' rationale (Christopher Alexander, 1979) as autonomous units of thought installed in the membrane of the already existing buildings expressing onto the exterior what happens inside, an exterior skin connoting the status of the internal body organs.

Performing interpretation design

In 2008, the philosopher and anthropologist Bruno Latour presented the text 'Prometeo cauto? Primi passi verso una filosofia del design' at a Design History Society congress, calling upon reflection on the development of the term 'design', both in understanding and diffusion. In his text, the author argues that "più gli oggetti si trasformano in cose, cioè più le 'materie di fatto' si trasformano in 'materie in questione', più esse divengono sempre più profondamente oggetti di design" (Latour, 2009:256). In his reflection Bruno Latour examines five benefits of the design concept: (1) modesty (2) attention to detail, (3) semiotic competence, (4) a process in which projecting is always re-projecting and (5) the ethical dimension, to conclude that today, design calls for precaution and attribution of meaning. Regarding the five benefits of design concept as autonomous 'patterns' of thought, we will commence by posing as a question one of the benefits that seems directly related to interpretation design: why is projecting always a re-projecting process?

Design action is displayed in the rapport with the context and in the ability to explore and evaluate emerging solutions. A path with no apparent right answer, but with truth, affected by the use and meaning we attribute to things resulting from our own creation. This allows understanding design in the second half of the twentieth century. As explained by Bernhard Bürdek regarding the influence of Leibniz's thought in German design: "se interesó igualmente por los procedimientos combinatorios e hijo aportaciones importantes para el perfeccionamiento de la lógica matemática. Precisamente estos aspectos fueron el fundamento del trabajo sobre a metodología del diseño en la Escuela Superior de Diseño de Ulm² (Bürdek, 1994, p. 127). A process between finding and demonstrating (reflection, analysis, synthesis, rationale and selection of alternatives) and that although exported by his students as the 'Ulm Model', became one of the reasons for the shutting down of the school. During Maldonado's administration, any project of industrial or craft nature was ignored, the attentions were entirely focused on the development of the concept for masscommunication with all other disciplines regarded as design supports. According to Bürdek, the Hochscule für Gestaltung in Ulm "no se mostró receptiva frente a lá entonces incipiente crítica al funcionalismo y al debate iniciado poco más tarde en torno a cuestiones ecológicas. Sobre todo en sus institutos reinó una comercialización tal, a través de proyectos industriales, que en el caso de algunos profesores ya no era posible hablar de independencia y distancia critica." (Bürdek, 1994, p. 42). The classic projectual method, science-based and product-oriented had revealed weaknesses by ignoring the external factors inherent to the process and to the impact of the final product on the user.

However, this model was not adopted in all contexts, as the English context or the Italian, in the sixties. In the former persisted a debate between craft and industry that endures to this day. In the later, the influence of the Renaissance and Futurism describes Italian culture as a broad context, once everything is presented in movement and ready for questioning and reinterpretation. This high propensity for debate will be decisive to the definition and development of projectual methodologies as a discipline.

¹ (Authors' translation): the more the objects are transformed into things, also more the 'factual material' becomes the 'matter in question', as they increasingly become design objects.

² (Authors' translation): also interested in combining procedures and made significant contributions to the development of mathematical logic. These aspects were precisely the foundation for design methodology studies in the Ulm School of Design.

³ (Authors' translation): was not receptive to the then emerging functionalism critique and to the debate started somewhat later regarding environmental issues. Especially in these institutes, commercialization was so dominant through industrial projects that in the case of some teachers, independence and fair criticism became impaired.

According to Nigel Cross (1981), if the scientific method controls the experiments, classifying and analyzing them, and the social sciences and humanities method employs an analogy, metaphor and evaluation method, the interpretation method employs an intellective and dialectical method which sets and analyzes hypotheses, followed by a phase of verification of errors and satisfactory solutions (Cross, 2007) as they arise. The prudent designer ponders the complexity of factors constituting the problem, grasping and therefore issuing a judgment before setting for action. But this method does not avert others, it is achieved through literary culture, scientific culture and technical culture, but by means of education, in the sense that, as argued by Peters (1965), if "an 'educated man' is distinguished not so much by what he does as by what he 'sees' or 'grasps'. If he does something very well, in which he has been trained, he must see this in perspective, as related to other things. It is difficult to conceive of a training that would result in an 'educated' man in which a modicum of instruction has no place. For being educated involves 'knowing that' as well as 'knowing how". (Peters cit in Cross, 2007, p. 4). This implies applying a method that assumes there is prior knowledge on the existence of things in the sense that there is a predisposition to know. There is always a set data, a projectual limit, therefore, in order to operate, the designer does not start from void but from a new problem, new questions, hypotheses: "I designer più intelligenti non partono mai da una tabula rasa." (Latour, 2009, p. 257). The designer must depart from the already existing that longs for a new interpretation. The benefit of a process in which projecting is always re-projecting is relevant to design practice that is strongly process-oriented, engaged in a cognitive and prudent method related to the concept of comprehension. As explained by Nigel Cross: "An aspect of cognitive strategy that emerges from some studies is that, especially during creative periods of conceptual design, expert designers alternate rapidly in shifts of attention between different aspects of their task, or between different modes of activity." (Cross, 2007, p. 88). The designer, who draws advantage from the sense of time and plunges into different scopes to re-project, sets a path that summons the process of attributing meaning, summoning new interpretations. An ambiguous comprehension framework, in the sense that the onset referent apparently stable in other context or time, in a new scope – design, in this case – may become a new hypothesis, an intelligent question. A process that is close to the abstract nature of design but also to the practice of the hermeneutic cycle. This path of interpretation design is totally different from methodological analysis, for etymologically, design has more than one sense and manifests in different ways depending on the endless evaluation of the variants defining the context. Therefore, the practice of the hermeneutic cycle can be faced as the reading key for interpretation as a design method; "The operation of the hermeneutical circle is not the employment of a method. It is not something we can choose to use or not, in the manner of a tool. It is, rather, embedded in all thought and in all action." (Snodgrass-Coyne, 2006, p. 45). The two authors further argue that clarifying a project does not imply formulating a procedure as the alternative to any other, but devising what is operational in each stage of comprehension. The benefit of interpretation design lies in the possibility to always hold something as a reference, to question each stage of comprehension with satisfactory hypotheses, with examples and not merely with knowledge. Because they are sufficient, these hypotheses acquire the quality of rethinking all possible scenarios without prejudice, unlike absolute hypotheses which by nature consider one scenario only. Interpretation design meets the operation of the hermeneutic cycle that raises questions and that according to the use and meaning found (depending on time, context, etc.) may (or may not) shift, becoming a new question, an hypothesis, satisfactory solutions open to new questioning. The design that relates to the context, in the use and meaning of things, allows these variables to interfere with the onset proposal, constantly revisiting, reformulating and reprojecting it. The process is more important than the result, compelling the designer to operate at that present moment with complex and expansive factors. The designer transforms the initial question onto a new question, reevaluates it, considers all parties engaged along the evaluation path between the identification of the problem and the hypotheses found, with a particular type of knowing that may be classified as 'pensiero debole', weak thought (Vattimo, 1983), not in the deductive sense that for being weak it is frail or faint, but because the presented 'truth' is mobile and susceptible to an infinite number of interpretations.

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⁴ (Authors' translation): the more intelligent designer does not start from scratch anymore.

The semiotic competence in design

Interpretation design on the skin of buildings

In a conversation with Jean Baudrillard about the uniqueness of objects in architecture. Jean Nouvel (2002) raises the issue of architecture in the twenty-first century still being coupled to Vitruvius formulas, ignoring or avoiding new difficulties emerging in the second half of the twentieth century. According to the author, the demographic increase, the exodus towards the cities or the expansion of cities, but also the administrative inefficiency were new problems that architects were not prepared to deal with and whose answer lies essentially at the level of urban planning. Jean Nouvel denounces the gap and imprudence of architecture for ignoring this new scenario, "so in this sense. I'm against everything that is part of same order as Architecture. This means that from this point on, we must make use of another strategy, where we're required to be slightly more intelligent – to the extent that we can be – required to constantly diagnose the situation, required to face the fact that architecture is no longer the invention of a world but that it exist simply with respect to a geological layer applied to all the cities..." (Nouvel, 2002, p. 18). Jean Nouvel even states he takes the side of whatever opposes this notion of culture. According to several authors such as Andrea Branzi (1975), the analysis of this complex and new city was the cause of architecture's internal crisis. An investigation that for Branzi is never pondered by the architects, a project requesting orientation "verso i limiti oggettivi della città come strumento di vita, verso limiti ormai esplorabili di una disciplina che vive una propria contraddizione storica e intravede la propria possibile morte naturale all'interno di più ampi e profondi fenomeni di trasformazione culturale e sociale." We highlight two core issues from this reflection confirming the premises previously discussed regarding interpretation design: 1) It is essential to set conjectural answers oriented towards new solutions that meet the demands of the moment (time as truth). The project answer given by architects in the construction of buildings in the cities remains a sort of automatic procedure, an attention failure that urges resolution. It is important that the project's designer recognizes in the complexity one opportunity to propose solutions. 2) The diagnosis to the complexity of factors is something that must be done continuously, not something that may or not be done. Projectual intervention in the city requires departing from architecture for historical and semiotic reasons, but architectural solutions are not necessarily the model for interpretation. Which architecture would be an interpretation model? Regarding the intervention in which the interpretation of the place is the style and/or the language of the project performer as response targeting a solution, architecture cannot be a reference for the interpretation of the city. Intervention is required specifically in the subproject of the 'skin of buildings', with a project tool from the twenty-first century and reflecting the volatile reality of the inhabitants, now more dynamic and ephemeral. An ambiguous reality, as is design's nature, between conception and attribution of meaning. It is important to address the singularity of the 'skin of buildings' operating an inspiring model of interpretation originated from a fundamental concept, assessing and reassessing before delivering an answer. The interpretation design on the 'skin of buildings' is, for that reason, hermeneutical and dialectical. The skin is one of the components of the scenario interacting with

The singularity of the objects in the city as a space requesting interpretation may be understood as a premise for our research on interpretation design in the equipment scenarios, namely on the 'skin of buildings'. Given that one of the roles of design is the connotative function and that semiotics, as theory of signs, deals with communication and connotation, we pursuit

⁵ (Authors' translation): towards the objective limits of the city as a way of life, towards limits now exploitable of a discipline that is undergoing an historical contradiction and assisting the own natural death as possible within a broader and deeper phenomenon of cultural and social transformation. BRANZI, Andrea 2003. Article from "L'architettura cronache e storia", n°234, April 1975. Andrea Branzi sulla linguistica architettonica di Andrea Branzi - Bruno Zevi. 13.2.2003. http://www.antithesi.info/testi/testo_2_pdf.asp?ID=242

⁶ "Semiotics (Greek semeion 'mark, sign') older spelling of semiotics. This term was coined by Hippocrates (460-777 BC), the founder Western medical science, who established semeiotics as a branch of medicine for the study of symptoms – a symptom being, in effect, a semeion 'mark, sign' that stands for something other than itself. (...) American philosopher Charles S. Peirce as the basis for circumscribing an autonomous field of inquiry that de, like, Lock, defined as the doctrine of signs.' The word doctrine was not used by Peirce in its religious sense, but rather in its basic meaning of 'system of principles." (DANESI, Marcel in Encyclopaedic Dictionary of Semiotics, Ed. Media and Communications, 2000: 203-204).

understanding how semiotics inform design, or as advocated by Bruno Latour (2009). understanding the benefits of semiotic competence to design. We are concerned with the space singularity referred by Jean Baudrillard (2002), the sense of location, expression, construction, attribution of meaning, and not the architectural meaning of buildings. The relationship established between the project performer and the citizen is a need to attribute and retrieve meaning, not merely an ability to communicate. Interpretation allows starting from a sign to travel a path leading to the understanding of the referent by means of other signs conveying connotation. According to Peirce "a sign, or 'representamen', is something which stands to somebody for something in some respect or capacity. It addresses somebody, that is, creates in the mind of that person an equivalent sign, or perhaps a more developed sign. That sign which it creates I call the 'interpretant' of the first sign. The sign stands for something, its 'object'. It stands for that object, not in all respects, but in reference to a sort of idea (...)" (Peirce, 1955, p. 99). Peirce advocates a thought based on a theory of knowledge that asserts that the sign calls for sense, for meaning, emphasizing the importance of knowing what the sign means rather than what it represents, since the semiotic act regards understanding senses and meanings, instead of merely creating signs. With Charles Peirce the action takes place through signs, therefore it is crucial to grasp the definition of sign, analyzed according to each era. The meaning of the word 'sign' inserted in its context, the definition semiotics as a science has acquired and therefore interpretation as process of attributing meaning may lead us to the understanding of semiotics applied to interpretation design regarding the 'skin of buildings'. Peirce called this pragmatic thinking 'abduction', as only logical operation which introduces any new idea. In the field of design, it can be translated into a process of suppositions, intuitions and not of certainties. In the present research on the action of interpretation design, this 'intuition' leads us to question and ponder about the 'skin of buildings', wanting to understand the difference regarding what might have been in its place, considering the characteristics that define the context. A path upon which the project's hypotheses are autonomous cultural entities requesting permanent interpretation as in a narrative process whose characters (people, time, culture, context, ground, the skin of buildings, negative and/or positive factors) summon the narrator to provide them their speeches. An action exclusive to each actor, therefore qualified as identity of the space, but that will only be meaningful if there is a relationship between all characters. The façades request establishing dialogue with other 'patterns' so that reality may connote identity.

The logic intuition of new building skin solutions: the cases of Daciano da Costa and Carlo Scarpa

The interpretation of 'genius loci' (reason for the place) and the 'milieu' (environment) may be considered as an 'abduction' leading to the understanding of the function-meaning of the 'skin of buildings'. Presenting innovative solutions, the designer can/should address the 'skin of buildings' as one of the city elements. To support this reasoning we will analyze two interpretation design cases, in Lisbon and in Venice.

In the first case, the atelier of Daciano da Costa started a proposal in 1999 for the reclassification of Praça da Figueira in downtown Lisbon. This intervention named by Daciano da Costa as 'design as city fragment' should reinforce the unity of the different façades in the square, simultaneously respecting their original diversity, given that this square belongs to the historic centre of the city, characterized by successive interventions over time. Through the ages, Praça da Figueira has been a meeting place for people, markets and communication, a public square, for public use, requesting a logical interpretation of signs requesting decoding. "O recurso a um leque restrito de cores e de motivos, tomados directamente da tradição de revestimento azulejares de fachada, a exploração sistemática das suas possibilidades de combinação, por forma a definir uma tipologia de padrões e a gradação das respectivas densidades, permitiu estabelecer uma série de critérios de aplicação (...)" (Costa Martins cit in Martins, 2001, p. 224). The result is the miscegenation of

⁷ Abduction, from the Latin AB 'away' + DUCERE 'to lead' (see also *deduction, *induction). Term used by Charles Peirce to designate the kind of reasoning whereby a concept is formed on the basis of an existing concept or model; an abduction is essentially a 'hunch' as to what something entails or presupposes (DANESI, Marcel. Encyclopedic Dictionary of Semiotics, Media & Communications, 2000:3).

graphics elements connoting the experience of the square as if it were a scenic stage: the interpretation of immaterial culture, as the Lisbon city cries, the colors, and the trading feast at the square. Because it was process-oriented, the sub-project or the 'pattern' of the façade of the requalification project of Praça da Figueira in Lisbon has not ended yet. In terms of product and according to the City Hall, a total of about 150 thousand Portuguese ceramic tiles (azulejos) made the intervention 'too' expensive and therefore only partially executed, indefinitely postponing the façade intervention.

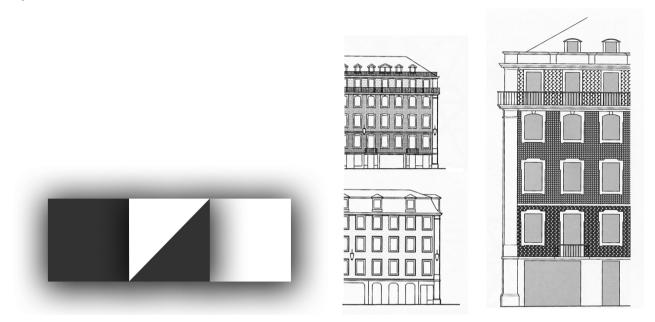


Figure 1 Project of the building skin by Daciano da Costa (1999 -). From left to right: Drawing of the 3 tiles (azulejos) used on the buildings skin at Praça da Figueira in Lisbon – Image by the authors. East Project and South Project. Vertical monochromatic sequence with variation of densities – Images adapted from the book 'Daciano da Costa, designer' (Martins, 2001, p. 225).

The second case regards Carlo Scarpa's interpretation on the restructuring of the Olivetti's shop in San Marco square in Venice, between 1957 and 1958, whereas the restoring of the Venetian shops began in 1950. As explained by Carlo Scarpa "Adesso ho per la testa un progetto per un negozio a Venezia, per un cliente molto danaroso. Poiché non posso toccare nulla, debbo fare una pelle, una fodera - ma quale è la più idonea in quel posto?..." (Scarpa cit in Dalco-Mazzariol, 1987, p. 287). After studying the problem, Scarpa intervenes in an emptied space, starting from a previously defined context, combining the tradition of the materials with the new technological developments available at the time: the Istrian marble, the Aurisina marble, tamped concrete. lapidated crystal in metallic structures, teak wood, ebony wood, pate de verre, stainless steel, stone, and opal glass. The process was performed by local artisans and fortunately, as stated by the author, limited by the client. The skin should be the outcome of the inside of the shop, therefore should reflect the luxury in materials and construction methods through handmade techniques. The complexity of elements that constitute the façade would infer the value of a client intending to connote the visit to one of the most luxurious squares in Europe. In this case, as argued by Carlo Scarpa, the intention was not to make one more shop. As he defined regarding the Venetian Olivetti store: "Chiesi al committente: "Cosa volete? Devo fare degli uffici?" - "No, no... un biglietto da visita..." (Scarpa cit in Dal Co-Mazzariol, 1987, p. 287).

Daciano da Costa and Carlo Scarpa, in different times and contexts perceived the need to apply a procedure based on a design project rationale that would call upon the complexity of signs that interpret the city. Through narrative proficiency, both creators called not only upon reflection but also upon the excellent opportunity to devise a system with the ability to define and relate the subprojects in a dialogue between citizen and space. As advocated by Nigel Coates (2008), architect and head of Architecture at the Royal College of Art, nowadays it is important to think about the experience involving the body, not the body itself. "The city can reach a density of meaning

because of the spirit in which it is put together rather than the sum of its individual parts. With today's means it is not only possible to explore architecture as an assembly of physical fragments, but as a 'filmic' continuum of events and experiences. In doing so it would 'contain' the interface between the individual and the place, and the various built bodies in it." (Coates, 2008, p. 43). The sub-projects are 'patterns', autonomous units of thought installed in the 'skin of buildings' whose exterior means what happens inside.







Figure 2 Olivetti Store in Venice by Carlo Scarpa (1957 – 1958). Left to right: Main façade of the Olivetti store in Venice (Picture by Seier+Seier), stairs detail from the outside perspective (Archivio Fotografico della Fondazione La Triennale di Milano) and detail of the building skin (Picture by Seier+Seier).

Conclusion

We dare assuming that the project of the vertical surface of the city should take into consideration the design of the cultural experience. Among various satisfactory hypotheses we may consider Daciano da Costa and Carlo Scarpa, who made an intervention in a historical centre as a project's answer with cultural implications. However, the designer (Daciano da Costa) gives an answer in a broader scale than the architect (Carlo Scarpa) who develops an intervention at the level of the detail. Da Costa is interested in the urban perspective and not in the building per se. It is important to refer that the clients of both of them are different: a town (Lisboa) and a brand (Olivetti). The first client is more generalist and asks for an inclusive project, for all people. The second asks for a luxurious project related with S.Marcos which cultural factor is the element of recognition of a town like Venice. Thus, the designer as an interpreter applies a combination of factors, such as existence, time and place, before pondering the city project. An action in distinctive parts. exhibiting the relationship established between fragments and man. To consider the 'skin of buildings' one of the components in this scenario indicates interpreting the city membrane as an 'intelligent skin' that relates to the citizen, to the building that historically already exists and to the other elements of the city. The project's hypotheses are answers turned into questions, establishing a dialectic process with the initial question, and for that reason, with man. Fragments for which the designer lays out a language, an identity that connotes the citizen's will for selfrepresentation. Fragments interpreted like in movies, with core components as the Luchino Visconti's draperies or Wim Wenders' city. An intelligent skin that addresses all elements: people. culture, context, the (old and new) technological developments, the morphology of the materials. but also with the negative factors that persistently and relentlessly define the twenty-first century scenario. A skin that relates to the space and that for being interpreted through design action appears as a cognitive and dialectical skin: connoting meanings upon which the citizen is selfrecognized in the outside, as a mirror reflecting various 'selves' in a building façade. As if by projecting outwards what takes place inside the skin would acquire a twenty-first century human body, a skin that mustn't necessarily reveal the actual age of the body. Something happens, that other disciplines like cinema, fashion, literature or music have already explored, result of the evolutionary analysis of context and man. As if revisited, the skin of buildings yearns to be restored acquiring as many faces as the states of mind of the activity/ies taking place inside the building.

The experience of interpreting the city through design action already has a few decades, holding as chief reference the example of the experimental projects in the sixties by Peter Cook's

Archigram or Andrea Branzi's Archizoom. The former based on an experimental utopia and the latter departing from the city as it was, not as it might be. We shall consider both cases as other satisfactory hypotheses to reflect on the operation of the hermeneutic cycle applied to design practice. An operation that is not intended to conceive new objects or new buildings, but rather product systems to qualify the objects singularity, in the present case: the peculiarity of the 'skin of buildings'. Operation for the designer to doubt, discuss and question with autonomy, with room for error and for certainty.

References

VATTIMO, G.; ROVATTI, P. A. (Curators) (1991). Il pensiero debole. Millan: Feltrinelli.

BAUDRILLARD, J., NOUVEL, J., Hays, K. M. (2002). *The singular objects of architecture*. (R. Bononno, Trans.). Minneapolis - London: University of Minnesota Press. (Original work published 2000)

BÜRDEK, B. E. (1994). *Diseño. Historia, teoria y práctica del diseño industrial.* (F. V. Lópes-Manzanares, Trans.). Barcelona: Ediciones Gustavo Gili. (Original work published 1991)

COATES, N. (2008, January 08). Tales of the city. *The Os Publication* (UK), Retrieved December 8, from http://www.lsbu-openseries.com/download/sample%20chapters.pdf

CROSS, N. (2007). Designerly ways of knowing. London: Springer-Verlag AG

DAL CO, F., MAZZARIOL, G. (1987). Carlo Scarpa, 1906-1978. Milano: Edizione Electa.

LATOUR, B. (2009). Prometeo cauto? Primi passi verso una filosofia del design. *EIC Serie Speciale*. Anno III, nn. 3/4 pp. 255 – 263.

MARTINS, J. P. (Org.) (2001). *Daciano da Costa, Designer*. Lisboa: Fundação Calouste Gulbenkian

PEIRCE, C. S. (1955). *Philosophical Writings of Peirce /selected and edited with an introduction by Justus Buchler*. New York: Dover Publications.

SNODGRASS, A., COYNE, R. (2006). *Interpretation in architecture: design as a way of thinking.* London: Edition Routledge Taylor & Francis Group.

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