

CADERNOS DE ESTUDOS AVANÇADOS EM DESIGN

Collection of Advanced Studies in Design

SEMIÓTICA

Semiotics

Salvatore Zingale

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A via pragmatista e a construção
de uma semiótica do projeto
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as memory signs*

Dijon De Moraes
Regina Álvares Dias
Rosemary Bom Conselho Sales
(Orgs. / Edited by)



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What semiotic for design? The pragmatist way and the construction of a project's semiotic

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Semiotic, science of transformations

Semiotic is commonly defined as *science of signs* or, in a more general way, *science of semiosis and meaning*. For many aspects and particularly seen in relation to design, I prefer to define it also as *science of transformations*. This for the fact of the use of signs – specially those signs we call artifacts – modifying the knowledge, the values and the beliefs of a culture. Signs modify life.

For this reason, for the attention to the idea of transformation, when I think about the relation between semiotic and design comes to my mind the eleventh *Thesis about Feuerbach* (1845) by Karl Marx, where it is said that the philosophers take charge of comprehending how the world is conceived, but this is not enough, according to Marx: they should help to change it. The same should do the semiotic ones. It is not enough to say that the world is conceived by signs. The semiotic ones may help to transform this world (social and cultural), to project it.

The project semiotic – the *project* one, not only the *design* one – should have as goal being put as a discipline of investigation to better understand the meaning of goods production, of social relations mediated by artifacts and in an ultimate analysis of the ways throughout human communities take form¹. The German word *Formgebung*, to give form to, frequently used as synonym for design, is extended to the comprehension of each human condition. The semiotic of the project, in other words, is thought as one of the disciplines that contribute with what the anthropologists call *antropopoiese*²: the process throughout which many cultural identities give form to humanity itself and to the environment.

I understand as “artifact” environment the one that includes practically all the spheres of interest in design: objects and instruments, architecture and cities, media and instruments of communication, services and organization systems and, beyond that clothing, food, technology and cultural goods.

1. In what concerns semiotic and project, the essay of the online magazine Ocula (www.ocula.it) dedicated two volumes: Deni e Proni (2008); Bianchi, Montanari e Zingale (2010).
2. About antropopoiese see Geertz (1973) and Remotti (2013). Geertz highlights that “We are incomplete or unfinished animals that complement and perfect ourselves throughout culture, not general culture, but throughout extremely particular forms of culture [that is, the ones inherent to the geographical and historical environments we live in]” [Free translation]. Culture can be considered as an instrument throughout which we may fulfill the “emptiness” that exists between our psychophysical conditions and our need or aspirations. Finally, Geertz individualizes on of the cultural ways for fulfilling such emptiness that, by its time, is relevant to design: “The tools, the hunting, the family organization and then the art, the religion and “science” have molded man in a somatic way, becoming this way necessary not only for survival but also for his existential realization.” [Free translation] (GEERTZ, 1973).

In resume, everything that we, human beings, produce and that gives *form* to our own humanity.

The *antropopoiese*, according to the anthropologists, comes from the idea of man as an incomplete being and organically unfinished. It is an idea that has its origins in the myth of Prometheus, that says that oppositely to the not human animals, which have “endossomatic organs” (from fur to physical strength), that are partial tools but enough to protect them from the environment, we human beings need to complement ourselves with “exossomatic organs”: that is, the *artifact environment*. For such reason, as Clifford Geertz observes, man is the only animal that needs projects (GEERTZ, 1965).

Semiotic, science of interpretation

Projecting and also the possibility of building cultural identities come from a ceaseless activity of interpretation. The form we give to the artifacts and to the experience is the same interpretation of a desire as well as of a need or a social ideal. And here enters the semiotic. Particularly the semiotic that puts the maximum attention to the interpretative processes and use it as a project and transformation instrument.³ In fact, the interpretation can be seen as an exploratory and epistemological activity and, therefore, as an investigation about the environment for the identification of laws; or still as an activity of analysis and comprehension of the texts, which come “open” and “dismembered” for the understanding of their structures. But only if understood as a *projective and of pre-configuration activity*, the interpretation can contribute to the projectual culture and to design; because in such case interpretation is put as a profound knowledge about the whole problematic reality and as an instrument for the visualization of its own overcoming.

Interpretation, as Plato used to teach and as it is thought in the philosophical semiotic of Charles S. Peirce, is an activity of comprehension of what is presented to the mind as obscure or surprising, furtive, without categories to frame it; of what is presented to the mind not only as a *hidden sense* to be discovered, but specially as a *possible sense* to be constructed. It is not by chance that in the Peircean semiotic one of the most innovative and original concepts is the one of *interpreter*, more than the own concept of sign or semantic

3. Geertz underlines the concept of culture as essentially semiotic (GEERTZ, 1973).

analysis. Interpreter is the conclusive object of all interpretative activity. As cultural community, we are the product of what we interpret and what we project. It is possible to think History as the result of continuous and inevitable processes of interpretation. In the same way, in design the interpreters are the artifacts we are capable of imagining and producing.

The sense of possibility

In a projectual perspective, the object of interpretation is what the Austrian writer Robert Musil denominated the *sense of possibility*, complementary to the sense of reality, that is, the capacity of thinking about everything that can be, precisely because it does not exist yet:

Wenn es aber Wirklichkeitssinn gibt, [...], dann muß es auch etwas geben, das man Möglichkeitssinn nennen kann. Wer ihn besitzt, sagt beispielsweise nicht: Hier ist dies oder das geschehen, wird geschehen, muß geschehen; sondern er erfindet: Hier könnte, sollte oder müßte geschehn [...]. (MUSIL, 1930/32: 16)⁴

The *sense of possibility* of Musil has a certain correspondence with another great theoretical invention of Peirce: the *logic of abduction*. As previously stated and also put a lot into evidence⁵, the inventive and projectual activity gets support in the idea of the possibility of the abduction being activated in the thought, while capacity of generating hypothesis about a *possible absence* (for example, a cause or an event that had occurred previously or even a law that has not been found yet) from a *surprising fact*.

Abduction is the pre-figuration of the possible and, for many aspects, the best way of understanding how our future could be: how we can prepare the future, because it is an inevitable possibility. In terms of abduction, future is *absent* as well as *possible*, it is what does not exist but that cannot be prevented from happening.

Future as a theme is constant in the thought of Peirce, as if it was an element that is inherent to his philosophy. We may see it, particularly, in the fragment below that is cited in two parts:

4. But if there is a sense of reality [...] there must also have something that we can call a sense of possibility. Whoever has it, does not say, for example: Here this or that has happened, will happen, must happen; but invents: Here this or that could have, could or should happen. [Free translation]

5. Bonfantini (1987; 2000); Eco e Sebeok (1983); Bonfantini et al. (2006); Proni (2012); Zingale (2012).

To say that the future does not influence the present is untenable doctrine. It is as much to say that there are no final causes, or ends. The organic world is full of refutations of that position. (PEIRCE, CP 2.86)⁶

6. All Peirce's quotes found in this article were taken from the Collected Papers (CP) and follow the international format. This way, the initials CP are followed by the number and volume and after the period comes the reference to the paragraph.

Between present and future there is a reciprocal relationship of interpretation: one interprets the other. If present is the object of interpretation (for example, I want to understand why I am in a situation of crisis), its interpreter cannot be but a future action (the decision of what to do to overcome the crisis). On the other side, if the object of interpretation is the future (what I want to be) I must look for the answer in the present (in the conditions that determine the will). The future though guides the actions of the present; the meaning of the actions in the present is determined by what we know and want to project.

But how does the future influences the present? Peirce answers that a little bit later:

But it is true that the future does not influence the present in the direct, dualistic way in which the past influences the present. A machinery, a medium, is required. (PEIRCE, CP 2.86)

In this paragraph, it seems like Peirce almost had in mind what we call today design: to project future actions we need a *mediator device*. Such device is the projectual activity. Design is machinery and medium for the future.

The meaning of things and the pragmatic maxim

From where to continue to build now a semiotic that can be understood as part of the projectual process, part of this machinery? How is it possible to build not only a design semiotic but a semiotic that can be put *inside* design and therefore, be a semiotic of the *projectual activity*?

According to Pierce, there is no other way than to find and impregnate the *pragmatic* way. Such way must be walked, before anything, because of the way it handles the issue without which the whole semiotic would not exist: how and where can we individuate the *meaning of things*? In our case, it is about the meaning of the artifacts and environments

7. About semiotic of objects I indicate, among others, Sempri (1999) and Deni (2001).

we project with the aim of better coursing our own existence. But it is not enough to occupy ourselves in “discovering” the meaning of things.⁷ A semiotic of the project should ask itself, firstly, how can we project the meaning of our things and, successively question about what such meaning produces. For example, which actions of response an artifact will be able to generate once it is on the hands of its user.

All that is expressed, like in a complex formula, in the pragmatic maxim Peirce shows in *How to Make Our Ideas Clear* (1878):

Consider what effects, that might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object.
(PEIRCE, CP 5.402)

I allow myself to present the pragmatic maxim as showed in Figure 1. I do it following one of my diagrammatic re-elaboration, in which I want to bring into evidence the property of reciprocal interdependence between the conception of an object and its effects and still how they constitute together a *raison d'être* of the entire conception. This way, let's say that the “practical bearings” are the *meaning* of each conception as *effects* or *consequences* that an artifact potentially has, that it *holds inside of itself*.

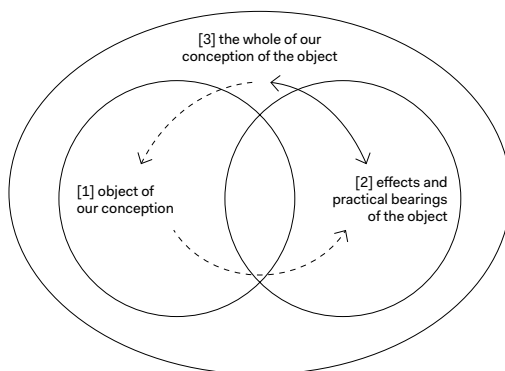


FIGURE 1 – Peirce's pragmatic maxim.

Peirce reformulated the pragmatic maxim in many occasions. It is worth, now, to also retake a second version, dated from 1905, that I present with my own commentaries inside the brackets with the objective of putting into evidence its adequacy for design:

The entire intellectual purport of any symbol [of any artifact] consists in the total of all general modes of rational conduct [of rational use] which, conditionally upon all the possible different circumstances and desires [conditions of use and necessities], would ensue upon the acceptance of the symbol [of the artifact]. (PEIRCE, CP 5.438)

In this second version what Peirce calls “symbol” for design is an “artifact”. Symbol and artifact are forms of conventional signs, culture products and therefore, product of the interpreters.

Two observations. The first one: if we limit ourselves only to a lexical analysis of the first version (1878), we cannot ignore how, in the form of a verb, noun and adverb, the idea of conceiving (“to conceive”) is present five times. If we think about the synonyms of this verb, maybe the pragmatic maxim starts to say something more. The synonyms are: *to generate*, *to comprehend*, *to idealize*, *to imagine*, *to understand*, *to create*, *to think*, *to invent*, *to project*. In such verbs, we may say, it is our whole common “conception” of what design should be.

The second observation is about the key-words that are important for design, explicit or implicit in the maxim: *effect and consequence*. By effects we must understand all the pertinent answers that a user will be called to produce once he is relating to the produced object. Be it of useful effects (usability), emotional empathy (approval), critical reflection (esthetic judgment) or of any other type. The meaning of the artifact is found in one of the produced effects. The same way as in the consequences, that is, in everything that happens once the artifact is immersed in the reality of its contexts of use. In this case, we would say that we must look for the artifact meaning in the actions it plays in each of its circumstances and situations of use.

Artifacts as models

The whole meaning of things, then, is in the social praxis that invents, determines, transforms it: in the capacity of it to contribute to shape our humanity.

Let's see an example that I take as "elementary" because it is about an archetypal instrument that is almost in every culture's basis: the knife. The meaning of a knife is in its capacity of cutting (what ergonomics defines as *efficacy*), and in the act of cutting well and with the less possible expense of energy and resources (*efficiency*) and, above all, in its capacity of satisfying who uses it (finishing, this way, the usability cycle)⁸. But its effects over the social and cultural plans are not limited to that. A knife is not only a "cut-stuff", but an instrument of a series of work tools. Together with other tools, contributes to form the "syntaxes" of a kitchen, or of a carpentry, or of an arsenal. In each one of these ambits knife has contributed to the formation or improvement of many cultural practices, more or less satisfyingly: hunting, food preparation, but also, among others, war.⁹

Without the knife artifact maybe we would not have the writing today, if it is true that *writing* means to *engrave*.¹⁰ By its time, the writing has contributed to make the culture stable and transmissible, has favored the development of sciences and communication systems. Still about writing, there are many studies that have put into evidence how the "technologies of word" are capable of shaping our mental processes (cf. GELB, 1952; ONG, 1982).

All artifacts follow this semiotic logic: we design them to satisfy a particular need (for example, communicating faster by distance) but then, if we may say, we project ourselves from them (re-organizing our social and cognitive life in a way that is dependent from the communication systems). Every artifact is potentially a producer and transmitter of mental and behavioral models.

Artifacts as habit

The knife example, if generalized, tells us that the artifacts contribute for the formation of what Peirce called *habit*, our mental and behavioral habits. The same way, the artifacts, when they are imposed as intrinsic functions of our social life,

8. About ergonomics and usability, I make reference, among others, to Bandini Buti (2001).

9. In *Il coltello e lo stilo* (1979), the philosopher Mario Vegetti individuates exactly the use of knife for animal dissection as the origin of scientific rationality.

10. In *A Study of Writing* (1952), Ignace J. Gelb highlights how in many languages the etymology of "writing" is related to the action of "carving": cutting, lacerating, engraving, etc.

they are habits. After all, every culture is a continuous of establishment and change of habits.

Although he does not make use of that term, the linguist Ferdinand de Saussure – another historical father of the modern semiotics – tells us that every natural language can be understood as the result of many necessary conventions that are formed and articulated throughout history: exactly as a continuous of forming and reformulating habits of verbal communication. Saussure answers to the question of what is a language:

C'est à la fois un produit social de la faculté du langage et un ensemble de conventions nécessaires, adoptées par le corps social pour permettre l'exercice de cette faculté chez les individus. (SAUSSURE, 1916, p. 125)¹¹

It means that every language finds its own form *throughout time*, that is in relation to already existent forms of language, to external influences, to migratory fluxes, to interests of the speakers and – we have added – to the actions of the environment. This is, for example, the reason why many national similar languages derive from Latin but they are not totally the same; and, in the same way, it is the reason why the spoken Portuguese in Lisbon (Portugal) is not precisely equal to the one spoken in Belo Horizonte (Brazil). The different specific forms derive from the inclinations and dispositions of the historical community of speakers. They are, therefore, social habits and they are part of human history, from the *antropopoiese*.

The same thing occurs for the artifacts and not only for those from the designers. It occurs with all artifacts that a culture develops as an answer to a problem and that, gradually, populate our *habitat*.

About such aspects, in 1972 Burno Munari proposed to the *Compasso d'Oro*¹² a collection of “anonymous objects” by unknown authors. In *Da cosa nasce cosa* (1981) there is an interesting cast, from the cage lamp for office to the reclining chair – Figure 2. The form of these anonymous objects, result of our project display, is a fruit of a formal progressive improvement of form and instrument

11. This is, at the same time, a social product of the faculty of language and a conjunct of necessary conventions, adopted by the social body with the finality of consenting the exercise of this faculty in the individuals. [Free translation]
12. “Compasso d'Oro” is the name of a Industrial Design award created in Italy in 1954 by the company “La Rinascente” from an original idea by Gio Ponti and Alberto Rosselli. Since 1964, it has been organized exclusively by the Associazione per il Disegno Industriale (ADI). It is the first and most recognized award in the field of design. The Compasso d'Oro aims to recognize and promote the quality in the field of industrial design Made in Italy and it is given by ADI”. (<en. wikipedia.org/wiki/Compasso_d'Oro/>).

that, by its time, makes those objects as essential as “true design”, as Munari observes. The fundament of their form, as we may observe, is not different from the one of a river that throughout time gives form to its bed – according to one of the most eloquent metaphors of Peirce (cf. CP 5.492).



FIGURE 2 – Cage lamp for office and reclining chair

The formation of habits

A habit also puts into action a dynamic of transformation and puts into question the sense of possibility and the idea of future. Habit is, indeed, defined by Peirce also as “a tendency [...] actually to behave in a similar way under similar circumstances in the future” (PEIRCE, CP 5.487). Habit is, therefore, a *willingness towards action*. Acquiring a new habit means forming a belief about the world and establishing a “rule for action” and of behavior that, by its time is a starting point for new inquiries and researches:

[...] since belief is a rule for action, the application of which involves further doubt and further thought, at the same time that it is a stopping-place, it is also a new starting-place for thought. (PEIRCE, CP 5.397)

Cultural life consists on a constant passage from doubt to belief. Without a system of beliefs our mind could not survive: it would be, to say

it somehow, constantly dilacerated by doubt or blocked by the incapacity of overcoming a problem. A belief is a conviction that we have that is fixed and unshakeable, a thesis we believe in. For example: “I believe the Earth is round”, or still, “I believe this furniture is the most appropriate one for your personality”. The search for a belief is the search for a mental habit to be adopted.

So here is a meiotic and projectual question: if the artifacts are habits of behavior, how are beliefs and *habits* formed? And how can we project the artifacts so they have the strength to become virtuous habits and at the same time inventive?

To define and establish his understanding about the beliefs, Peirce dedicated one of his most beautiful and important works: *The Fixation of Belief*, of 1877. I will not remain a lot on it, but I must remember that all methods to build and determine a belief are taken as incorrect by Pierce, except for one. The incorrect methods are the ones based on a strong personal conviction (“It is like this because I am convinced about that”), the ones that trust the opinion of an authority (“It is this way because someone superior to me says so”), gets support on universal principles (“It is this way because it cannot be some way else”). Many artifacts are produced according to such methods, that is, thinking that the quality of a project is in the personal taste, in tradition, in the following of consolidated rules never questioning. The only method to be considered valid by Pierce is the scientific one. Because it is the only one that proceeds by inference, by progressive interpretation from sign to sign, through hypothesis and, afterwards, through experimentation and verification. What should be also carried out in the project of our whole culture reality.

In this case also comes back the idea of transformation. A habit, in fact, takes form through the passage from the *doubt* to the *belief*, as Peirce says. Doubt is a general state of search and uncertainty; belief is, in the contrary, the state in which the thought finds “relaxation”, content and complacency after achieving a determined objective.

The project requires a storm of uncertainty and search for a satisfying solution. And if we understand the concept of doubt and belief, we will say that the project is in the passage from the agitation that arises from the presence of a problem to the invention (in the sense of finding or taking form) of an *interpreting artifact*. The semiotic process of such passage – of such transformation – is design.

From the problem to the product

What is design if not our continuous search for habits capable of best interpreting our vital needs? Design is born with the rising of the industrial revolution precisely to change the appearance of the products or to give them a neutral aspect and identity. Besides that – here the etymology really helps – design appears to give form to our *habitat*, to our *inhabitation in the world*.

Habit, therefore, is configured as a project and, at the same time, it involves other projects: on one hand, *projecting* aims to form habits (a way of organizing spaces, of carving wood, of writing, sleeping, nourishing oneself); on the other hand, the habit itself configures a project disposition towards the future (because we want our *habitat* to be more and more manlike). The interpretative process of design and all project activity is a continuous tension between what is interpreted and what the interpretation shows as an additional plan of action. I allow myself, now, to represent this tension or persistence of mental interpretative activity in the terms of a double mathematical function:

1. A product is a dependent variable that derives from another independent constituted by a problem:

$$\text{product} = f(\text{problem})$$

2. A habit, by its time, is a dependent variable that derives from the independent constituted by a product:

$$\text{habit} = f(\text{product})$$

Concerning that, I always refer to an inventive example that shows itself as excellent as well as essential. As essential as vital. It is about *Q-Drum*¹³, of which we see here, in Figure 3, an image.

13. See <<http://www.qdrum.co.za/>>.



FIGURE 3 – The Q-Drum.

Q-Drum is an artifact invented by Piet Hendrikse to solve a problem related to many African, Mexican and Philippines' rural populations: the transportation of clear water. It is a resistant recipient, with a cylindrical form capable of storing up to 50 liters of water. The Q-Drum's cylindrical form allows it to roll over or to be dragged over the ground, what results into three effects that highlight its utility and usability: (I) it makes agile the transportation of heavy charges of water, avoiding people to carry them over their heads (II) it allows the water to be distributed more frequently; (III) and finally as an effect not to be neglected, it makes the activity of water supply more fun and joyful, specially for children and young men or women.

That means, retaking Peirce' pragmatic maxim, to consider – that is, knowing how to imagine, to design – the possible effects and consequences the conception of an artifact has.

The social responsibility of design

The pragmatist way over which a semiotics of the project should proceed has infinite sides and also another value: remembering that design has a *social responsibility*. Design is not only a practice that generates individual artifacts, but it is also a cultural system that acts over material and cognitive contexts, over the forms of thoughts and over collective behaviors, over the forms of the cities, the environment and all other social realities.

It is not possible to not consider design as an instrument to make the world better, more habitable. As we saw, design never considers only the present, because *projecting* is a way of preparing the future. What we conceive *today* – a theory, a new lamp, a website, a dress – is never what *it is only today*, but above all, it is *what it is going to be from now on*.

In the pragmatist vision the future is not an object of forecast, like happens in some sciences – like meteorology – that have the task of informing us what might happen tomorrow. In pragmatism, to say in the *pragmatist design*, the future is pre-configured: displaying things in such a way that through it future might happen. Pre-configuration is the mental act that prepares the project. The pragmatist design, in resume, should be the way of projecting the world we live in, thinking about the consequences that, in all circumstances we may conceive, can influence our ways of acting and thinking. The pragmatic maxim we put in the center of our discourse tells us, in fact, that every projectual act is necessarily an open process, because it is dominated by the idea of *possibility*: every object of our conception foresees and prepares others. Signs may transform life, but we have to know how to manage them.

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