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DOUBT – A DISCOVERY
DOCTRINE IN DESIGN

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ABSTRACT

This study focuses on understanding the doubt as an inherent factor in the discovery process in design. Therefore, it is necessary to move from creation to discovery in design. It is, in fact, to understand that the doctrine of doubt as a discovery in design is therefore part of the representation of reality from the iconic and indicial signs, to the same extent as we have the suppression of the representation of reality by the symbolic sign. This way, the discovery doctrine in design aims to achieving a less wrong positioning regarding to the design thinking.

KEYWORDS

Pragmaticism. Semiotics. Discovery. Design. Doubt. Peirce, Charles Sanders (1839-1914).

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RESUMO

O objetivo deste trabalho é procurar entender a dúvida como fator inerente ao processo de descoberta em design. Logo, faz-se necessário o deslocamento da criação em design para a descoberta em design. Trata-se, na verdade, de entender que a doutrina da dúvida como descoberta em design parte, portanto, da representação da realidade a partir dos signos icônicos e indiciais, na mesma medida em que temos a supressão da representação da realidade pelo signo simbólico. Desse modo, a doutrina da descoberta em design visa a atingir um posicionamento menos equivocado, no que diz respeito a pensar o design.

PALAVRAS-CHAVE

Pragmaticismo. Semiótica. Descoberta. Design. Dúvida. Peirce, Charles Sanders (1839-1914).

This study focuses on understanding the doubt as an inherent factor in the discovery process in design. Therefore, it is necessary to move from creation to discovery in design. We have to understand that design is more than the materiality of the product, it is language. According to Ferrara (1986a), “[...] while language is the field fight of two parts – the design and use – that conflict in the characterization of its form, its record, in determining production and reception [...]” (p. 187). It doesn’t surprise, therefore, that current design processes might not be attentive to the fact that the relationship between design and use is intrinsic to a contextual relationship constantly corrected by ordinary social practice. It is needed to notice, above all, the urgency in overcoming the design static factor to understand that as language the design is fluid and mutant, especially in the atmosphere of use by society. In other words, “a complex sign that is composed by the mixture of other partial signs that affects social relations in space and time and interfere in the production / creation of the instability of these relationships.” (FERRARA, 2000, p. 156).

In this sense, “Reading, as an anti-linear operation by excellence, establishes the multiple perception able to catch the originality, the imponderable, the icon [...]” (FERRARA, 1986a, p. IX). For that, it should break the habit that characterizes the methods, design projects and processes, in order to review, to put in crisis values and / or conditioning which lead us to act redundantly. Doubt as a design discovery doctrine is just to break that habit that characterizes the design methods, projects and processes. According to Ferrara: “The method should transcend the object in order to catch it” (1986a, p. XIII). In the case of this study, it would be more pertinent to say that the designer needs a doctrine that transcends the object in order to catch it. The object in question we consider to be reality in which the designer has his common social practice. It is evident, then, that doubt as doctrine regarding the discovery in design incorporates as a factor inherent in the apprehension of that common social practice.

The solution able to overcome these barriers is in the suggestion of Pierce’s text that introduces this topic: a method to discover methods – a theory of the discovery method. That is, between submission to a method and a discovery method is the difference and the distance between tenacity research and that of wit. Working deductively and inductively, from theory to the object of research and from this to that, there remains a space for chance, for possible undetermined discovery. (FERRARA, 1986a, p. XIII).

It should be noticed, above all, the question of indeterminate discovery. It’s about that atmosphere of the indeterminate discovery tied to a research of wit. However, it seems clear that a search of sagacity comes from putting in doubt, first, the possibility of the existence of the manifestation of the designer creator. In fact, believe in the existence of a designer creator is to ignore the semiosis process to which all the signs are subjected. This way, we cannot take into consideration theories that consider the existence of the creator as relevant. Not surprisingly, then, that the supposed “creation” of this designer creator is only possible through signs. However, it is necessary to know that we consider that the discovery is not found in the signs. It’s about

to understand that the discovery is in the object. (Here we make a clear reference to C.S. Peirce's semiotic triangle.) At once, I will admit that the discovery being in the object makes it necessary to grasp the subtlety of C.S. Peirce's theory, because every object is in the atmosphere of the concept of reality (see IBRI, 2015). It is true, in this way, that there is nothing we can create, only discover.

Perhaps the poet, bored, shows his weariness of that object that he himself builds. Servile, the object of art always pays itself to being born by an act of the will of its creator, to grow with the form and diversity that the imaginary confers upon it, to supply its veins with the same sap of timelessness that nourishes the aura of the work. Perhaps the object, also annoyed at being merely a reference within what is self-represented, shows its weariness and, in a dialogue without words, suggests to its creator that he perceives poetry in what remains what it is, independently of any representation. [...] What a bored divinity of his omnipotence, the poet discovers charm in his impotence in dusk at night. Night says no and challenges him to find a possible poetry, written in a kind of hidden face of otherness. Endowed by the gods of magical power to always say obliquely the whole truth, the poet now faces the truly true. No longer he can say that the universe is his idea, he can no longer betray the night: in a blind eye suppress his existence. Something outside defiantly remains. Something objects. Something is the Object. (IBRI, 1996, p. 119).

It is evident that lasts us to have a phenomenological look to appropriate this object and give visibility to what is not visible to the eyes of the thirdness. This is the way that every time the designer tries to impose his "creation" to reality it promotes an otherness in reprisal. Therefore, such otherness can come immediately, as well as, take centuries.

Nevertheless, and for this reason, we must be aware of the complexity in which we are involved in ordinary social practices. "We find that the increasing complexity of the current scenario forces us to think again about old concepts and seek new answers – or at least to rephrase questions more accurately and effectively." (CARDOSO, 2012, p. 219). Indeed,

Perhaps the main lesson for design – fully received and assimilated in the practice of Brazilian designers over the last twenty years – is that there are no formal recipes that can meet the challenges of today. Color schemes and fonts, proportions and diagrams are not determined, much less incantations such as "form follows function", which will solve the huge challenges of the complex world we are in. (CARDOSO, 2012, p. 41).

It would be necessary to rescue, as some theorists think, what they consider to be the creative process or design process. This way, we can understand that there are some misconceptions in which they challenge us in the complex world we are in.

We have chosen here to rescue some citations, which exemplify the understanding of what these theorists have of what they call the design process. Let's go to them:

"Clearly, it has been recognized that creativity is valuable only when it is associated with professional competence and know-how. In the current

perspective, the weakness of this approach to traditional methodology lies in the deficiency in detecting and locating problems.” (BONSIEPE, 2011, p. 191).

“The design method is no more than a series of necessary operations, arranged in logical order, dictated by experience. Its objective is to achieve the best result with the least effort.” (MUNARI, 1998, p. 10)

“Unfortunately, a very widespread way of designing in schools is to encourage students to come up with new ideas, as if they had to create everything from the beginning every day. It does not ever contribute to young people achieving a professional discipline and they are oriented in the wrong directions [...]” (MUNARI, 1998, p. 12)

“If desire is the engine of sustainable development, creativity is its fuel: it is creativity that will give the entrepreneur the impulse to imagine a product or service that offers more (satisfaction to needs) with less (resources and work).” (KAZAZIAN, 2005, p. 8).

“It is not a matter of producing less, but in another way: to imagine efficient, simple-use objects whose end-of-life has been anticipated: to expand the supply of products that respect the environment.” (KAZAZIAN, 2005, p. 10).

Design thinking is attributed to Richard Buchanan the first mention of the term design thinking, in his article “Wicked problems in design thinking”, 1992.

“As a result of the appreciation of design in management circles was coined the concept of design thinking, recently. I have my doubts that there is something like ‘design thinking’, unless it refers to the holistic approach or design integrator [...]” (BONSIEPE, 2012, p. 20).

It does not seem evident that many “creation” theories foster the proliferation of egocentric and creative designers. Although they do not mind the fact that these theories segregates them only to the professional scope. It is necessary to note, above all, the market bias of such creation theories. Let’s see. How deep professionals who boast themselves of being professionally creative maintain the same position when moved to the personal level? It would be necessary to understand that this vision of the “Creator Designer” reinforces only poorly solved psychic goals. However, it is a mistake to suppose that creation is a manifestation of privileged people only in the professional sphere.

Another question that is shown to us is the following: just because it is innovative must it be necessary for society? It seems that such a position is much more linked to profit than to concern for what actually has the need for existence.

The implementation of design thinking may not try a prime factor. It is important to note where do professionals come from when they practice design thinking? From which beliefs? It does not seem evident that being the beliefs, in Peirce, factors that determine rules of action, placates the irritation of doubt, and is always aware of what it is; it is not surprising that all actions

practiced in design thinking come from the actions of these beliefs. It seems necessary to understand that beliefs equip us with a thirdness look, while thinking for the discovery needs a firstness look and a secondness look.

On the other hand, is it evident to what extent the results of those methods engender something close to reality and, therefore, that they will not suffer the impact of otherness? That's the famous situation: we plan everything and we do not understand what went wrong!

Other issues detected:

- Theories that focus on the problem to be solved and not who created such problem, or what is the real interest in solving such problem or engender something innovative?
- Theories that do not focus on the extent, which the symbolic productions, that someone has suffered, can interfere in the design thinking process?
- Theories that focus on the abductive method and do not consider the following fact: It is important, at first, to point out that the discovery starts from an abductive thinking, according to Peirce. *"Abductive inspiration happens in us in a flash. It is an insight act, though extremely fallible. It is true that the elements of the hypothesis were before in our mind; but it is the idea of ??associating what we have never thought before that makes the abductive inspiration shine on us."* (PEIRCE, 1974, p. 57). Notice that this process is an act of freedom. To what extent does the practice of this abductive process joins with a free mind inside design offices? It should be noticed that if the individual apprehends the world by the category of thirdness, it is evident that the predominance of selected signs to represent this world comes from the symbolic signs. Thus, the atmosphere in which this individual will practice abductive reasoning is an atmosphere of symbolic signs. Now it seems evident that the creative action supposedly inherent in abductive reasoning is closer to those who seek to know and represent the world using iconic and indicial signs. Now, I will admit that abductive reasoning, with knowledge of the symbolic world, is nothing more than the formatting of supposed creative recipe.
- Theories that focus on creating methods or recipes. In fact, it is not the method that must suit the facts, it is the facts that suit the method. It should be noticed that in a marketing strategy, it is tried to set all problems to the methods, rather than to think of a method for each problem or for each seek for innovation, if it is necessary to innovate.

It is also necessary to think about sustainable and ecological methodologies. It is really a matter of understanding that it is not sustainable materials, or ecologically correct materials that will make the world less degraded. The doubt as a discovery doctrine ratifies the fact that consuming such products does not exempt individuals from holding beliefs opposed to those contained in those products. In fact, how does the existence of these products promote a change of habit in those who use or to whom it becomes aware? The biggest problem of sustainable and ecological design is not in creating sustainable and

environmental products. The point is exactly that these products do not promote sustainable and ecological minds. Therefore, what determines the existence of the design products are the sign systems inherent to them. Of course, design being language, intrinsically rooted in ordinary social practices, has to point out the misconceptions of the engendering processes in design just as materiality of product. Thus, the theories engendered by Peirce can give visibility to these misconceptions of the existing methods. At the same time, they can propose a doctrine of discovery in design. In this way, the difference of doubt as a doctrine of discovery in relation to these theories is to return to the origins of everything. In this way, we can understand what reality really is, precisely by questioning what we think reality is. The need for a look without prejudices and judgments is an inherent factor in attempting what needs to be seen.

It is not surprising that start thinking about the question of design discovery is directly linked to an ordinary social practice. In fact, *"It is related to seeing, knowing how to do and from this correlation emerges that industrial design where what is drawn is not only an object, but an information that interferes in everyday life, in the way of life, in sociocultural relations."* (FERRARA, 2002, p. 51). It seems necessary to emphasize that the understanding of design discovery is not in the problem to be solved, it is not in the production of new innovative products, it is not in the solidification of methods and processes to make work easy and to increase profits. Above all, it is important to note that design is part of an ordinary social practice, while at the same time discovering the filigree that surrounds the relationship between design and that social practice. So, the designer needs an instrument so that he can observe such atmosphere. According to Ferrara,

Breaking the habit that characterizes the use of private or public environmental space must be a condition for an action capable of reviewing, putting in crisis values ??and / or conditioning more or less compulsive that lead us to act redundantly, in a near unconsciousness of our acts. This more critical and unconditioned action is, indirectly, a consequence of the possibility of acting of the interpretant, who, active and relational, operates between the object of representation and the sign that represents it (FERRARA, 1986b, p. 28).

It is, in fact, to understand that the doctrine of doubt as a discovery in design is part of the representation of reality from the iconic and indicial signs, to the same extent as we have the suppression of the representation of reality by the symbolic sign. This way, the doctrine of design discovery aims to achieve a less misleading position when it comes to think about the design. Thus we get closer to the *"theory solving its object and the object testing the concepts that speak it"* (SANTAELLA, 1996, p. 60). It should be noticed that such ability to read signs works as a compass to reach the necessary points and question them. In other words, the designer needs this reading to grasp what actually needs to be put into question. It assumes that like this we will move towards what Ferrara conceptualizes as a semiotic design.

In this view, the first dimension is installed for a semiotic design. We are in a historical and technological moment marked by speed and change, the market is flexible, voluble and programs the value and its disposability: to design is to be foresighted and sensitive to the oscillations of the moment to produce with more ability, in order to change sooner. The semiotic view is an important weapon to operationalize this ability and perceptive readiness, but it is aided by historical, geographic, social, cultural and technological contextualization in order to know how to see in order to predict. However, in this contextualization, it is necessary to face the reality that the designer finds in the wiles of industrial production (FERRARA, 2004, p. 53).

It should be noticed that it is in common social practice that the meaning of design becomes effective. Notice that it is no longer a process of "creation" but, above all, a doctrine for the act of discovery. Now, I will admit at once that the act of discovery requires a perception so that we can first decode the world.

If each sense works as a characterizing element of certain and singular perceptions, and each code creates its own syntax and way of representing, all representation is a codification of the world, a simulacrum of the universe and thus a differentiated cultural information. In this sense, it becomes obvious that, in order to decode any system, it is essential to recognize the sign and the syntax that identify it. (FERRARA, 1988, p.8)

It is good to notice, first, that a doctrine of discovery in design has as its principle the act of putting into question the established ordinary social practices. It is, in fact, the discovery of that which engenders identification and establishes itself as habit. However, the syntax mechanisms start from obscurantism fulfilled with seduction, in which they promote an opacity to see what actually establishes itself as a codification of the world. In fact, Peirce states:

But – I suppose – when he saw men who seemed clear and positive to support opposite opinions about fundamental principles, Descartes was led to affirm that the clarity of the ideas, which should be, on the other hand, distinct, that is, nothing obscure. What Descartes probably meant (since it was not explained precisely) was that ideas must stand the test of dialectic examination, they should not only initially seem clear, but a debate should be impossible to emerge obscure points related to them. (PEIRCE, 1993, p. 50-51).

It is legal to suppose that, in a general way, the designer or the design student starts from the premise that the ordinary social practice in which they live is initially clear, because, after all, there is no effectively protesting movement. It should be noticed that we are not referring to the protesting movements of more sustainability and ecology. It is necessary to notice, above all, the protesting movements of the origins that formed such an ordinary social practice. To this end, only an individual who is aware of the fallibility of that social practice is able to discover. Otherwise, according to Peirce:

For an individual, however, there cannot be any doubt that a few clear ideas are worth more than many confusing ideas. One can hardly persuade a young man to sacrifice most of his thoughts to save the rest; and the disturbed spirit is least able to perceive the necessity of such a sacrifice. We can only pity him, like a person with a congenital defect. (PEIRCE, 1993, p. 52).

Therefore, it is not surprising that we have many designers who, regarding “creation”, practice reproduction. It is evident that only with clear ideas about the environment in which we are involved allow a reading of the discovery.

Time helps, but intellectual maturity, as far as clarity is concerned, is often late. This seems an unfortunate accommodation of Nature, especially since for a man already settled in life, whose mistakes in a great proportion have already produced their effects, clarity is of less use than it would be for a man who had the way ahead. It is terrible to see how a single obscure idea, a single meaningless formula furtively installed in a young man's spirit can sometimes act as an obstacle of inert matter in an artery, preventing the brain's nutrition and condemning its victim to consume in total mastery of its intellectual vigor and amid intellectual wholeness. (PEIRCE, 1993, p. 52-53).

It is immediately evident that, in the light of convenience – in which the lack of clarity is promoted by social practice - several misunderstandings are provided. In fact, the way we live is not always clearly introduced to us. Therefore, according to Peirce:

Many men, over the years, have caressed, like a favorite toy, the vague shadow of an idea, too senseless to be decidedly false; and they loved her passionately, making her the companion of all hours, consecrating her strength and life, abandoning for her all other occupations and, in short, living with her and for her, becoming flesh of his flesh and blood of his blood; and they awoke one glorious morning to see that she was gone, that she had vanished like the beautiful Melusina of the fable, and that with her the essence of their own lives had disappeared. (PEIRCE, 1993, p. 53).

It seems necessary to understand that the ordinary social practice in which we live is based, primarily, on acquired habits. Consequently, every habit is only consolidated by fixed beliefs. That is why the need for doubt as a determining factor for design discovery. It is noticed that it doubts that we can check the intrinsic discoveries in ordinary social practices concealed by the habits acquired by beliefs. Indeed,

And what is belief? [...] We have already seen that it is gifted with three properties: First, it is something of which we are aware; second, it placates the irritation of doubt; and, third, involves the emergence, in our nature, of a rule of action, or, let us say briefly, the arising of a habit. As long as it placates the irritation of doubt, which is the reason for thinking, thought decreases its tension, and in reaching belief, it rests for a moment. Since, however, belief is a rule of action, whose application involves later doubt and subsequent reflection; it is at the same time a point of scale and a new starting point for thought. (PEIRCE, 1993, p.56).

Although belief works as a supposed certainty in the way we act, such a fact for the discovery seems to us disastrous. It is to understand that every belief promotes a zone of intellectual comfort, in which perceptions and observational capacity perish. In fact, if belief is something that we are aware of, every belief becomes something predictable, so, something routine, which does not add a new way of looking at things. Then he placates the irritation of doubt. Notice that if all doubt provokes an irritation, such irritation is the result of the absence of references of the way in which I must act. That is when the investigation and, consequently, the discovery arises. On the other hand, one can be held to the first belief, which directs me in the way in which it would be ideal to act. Thus, there is no question that such belief is fallible or not. Holding to belief for convenience in certain respects. And finally, belief creates a habit. Habit supposes not reasoning, since someone has already done so, and therefore we need only to follow it. It is clear, however, that a design professional attached to beliefs has a restricted or absent creative output. In this sense, we think that all discovery is the result of the doubt process imposed on the belief thus engendering discoveries hidden in the habit. In the given situation, the habit will determine the practical and intellectual actions of the designer, therefore, it is necessary to make explicit that such habit was not created, in certain respects, by the designer, but rather by someone or institutions, which he does not question about it.

Our beliefs guide our desires and work around our actions. The assassins, or followers of the old man of the mountain, rushed to death at his slightest word of command, because they believed that obedience would ensure eternal happiness. They doubted, and would not have acted as they did. Therefore, it is with every belief, depending on the degree of being reviewed. The feeling of belief is sort of certain indication of having established in our nature a tendency that will determine our actions. Doubt is never followed by such an effect. (PEIRCE, 1993, p. 76-77).

It should be noticed, above all, the security character of the belief. Therefore, it determines a habit. So, we have no questioning. Now it is noticed that perhaps even reasoning does not permeate such ordinary social practice characterized by habit, such as the efficacy of security established in the person's life via belief. However, we cannot limit "the reason why the habit cannot be taken as a purely behaviorist notion of stimulus-response, reduced the scope of organic" (BORTOLOTTI, 2002, p. XVII.). Therefore, every time a habit is doubted and succumbs to do it, an evolution happens from a reality shock, and then, establishing a change of habit.

Few people are concerned with studying logic, because all of them find themselves sufficiently knowledgeable in the art of reasoning. I note, however, that such sufficiency is only recognized in relation to one's own intelligence, and does not extend to that of other men. The ability to draw inferences is the last of the faculties upon which we acquire broad mastery; it is less a natural gift than a long and difficult learning art. (PEIRCE, 1993, p. 71).

It does not seem evident that the character of security, besides the generation of habits, causes that the beliefs promote an exemption of the act of reasoning by a simple matter of convenience. In fact, it could be that at the end of this course, let me glimpse something like: why should I question something that has been done and practiced in the same way for so long? Or something like: if everyone does it this way, why change it? Surely, few will think and ask: what is the intention of creating such habits? Who gains from such habits? Could we do it differently? With this:

The purpose of reasoning is to discover, from the consideration of what we already know, something we do not know. Consequently, reasoning will be appropriate if it is carried out in such a way as to lead us from real premises to true conclusion, apart from other possibilities (PEIRCE, 1993, p. 73).

It seems to be permissible to infer from this contextualization that in the relationship between discovery and design, doubt is an inherent factor. Note that doubt is established as reasoning and therefore, as discovery.

Under the determination of belief, we can say that thought carries out its activity without interruption, connecting representations, according to the determination of a habit. He works, therefore, within a situation already experienced in the concrete world or in the imagination. With doubt, this habitual chain is broken, passing the thought to err, realizing new experiments, until a habit is established again. (BORTOLOTTI, 2002, p. X-XI).

Another justification for this work is that, since the atmosphere of discovery is much closer to the entropy, it is necessary for the designer to establish an unpredictable reasoning. We assume that ruptures, experiments, mistakes, and breaks in preconceptions are essentials in the sense of creating an atmosphere of discovery. Regarding the factors mentioned, however, it is evident that the determining factor for the execution of these factors falls once again into doubt.

477. It can be proved that the only mental effect that can be produced and which is not a sign but of general application is a change of habit; by change-of-habit a change in a person's tendencies toward action, which results from previous exercises of will or acts, or a complex of both. Excludes natural provisions; but includes, in addition to associations, what might be termed "transsociations," or alterations of associations, and even includes dissociation which was usually considered by psychologists (I believe erroneously) to be of a profoundly contrary nature to association. Habits have innumerable degrees of strength, ranging from complete dissociation to inseparable association. These grades are mixture of ready-to-use action, for example, excitability, and other ingredients that do not require separate analysis at this location. Habit change often consists of the elevated or careless force of habit. Habits also differ in duration, which is also a composite quality. Nevertheless, it can be said that the effects of a change of habit last until time or some more definite cause produces a new change of habit. It follows, of course, that the repetitions of the actions that produce the change increase the changes. It is to be noticed that iteration of action is

often said to be necessary for the formation of a habit; but using the observation a little may refute this error. (PEIRCE, 1974, p. 147-148).

However, it is a public fact that doubting experience rests on a herculean effort of the individual. Thus, predisposition effectively requires a change of habit. Therefore, it is necessary to understand that from birth until the moment in which he decides to doubt, much is configured as obscure ideas transposed with clear ideas. It is in this sense that we visualize a resumption now not from preconceptions but above all from concepts generated from living and experience.

51. But, precisely, how does the action of experience happen? Through a series of surprises. No need to go into detail. In the old days, a ship sailed in a calm sea helped by the winds; the pilot was looking forward to the usual monotony of such journeys when he came across a choke. Most of the findings, however, resulted from experimentation. Now, no one performs an experiment without being a little convinced of obtaining an interesting result, because the experiments require a lot of physical and psychological energy to be carried out at random and aimless. And, of course, it is possible that nothing can be learned from an experiment that proves to be as we had hoped. It is through surprises that experience teaches us everything that condescends to teach us. (PEIRCE, 1974, p. 27).

Everything gets clear that the discovery is in doubting, so, the doubt leads us to an investigation state. Now there is research only from experimentation, that is, it is only from the act of passing through the experience that we learn from the experience. It is not surprising, therefore, that to pass through any experience is a liberating act, as we seek to understand it not by preconceptions, but above all by what it is presenting to us, that is, it is liberating because we begin to generate concepts and no longer reproduce preconceptions. It is in this sense that the design discovery must be guided by an atmosphere, in which we are interested in what does not repeat.

Therefore, we can conclude that, since the designer or design student is immersed in ordinary social practices in regard to discovery, it is evident the need to understand that – what happens in those practices has a character of fallibility and to understand the reasons why practices are the way they are. It would be to infer that such practices are in the way they are by virtue of the fixed beliefs.

According to Peirce, we must exercise the act of doubting, to verify the durability of the habit and its character of reality. When doubting, belief enters into a state of defeat, which opens the precedent for the investigation of which habit is better to be established, if there is need to establish one. In effect, an atmosphere of discovery is created. They are the discoveries that are the raw material of what is commonly called creation, which we call discovery. This proposition starts from ordinary social practices, where design effectively promotes meaning. Therefore, we consider that the effectiveness of design discovery is not a result of spontaneous generation, but rather of a joint in the atmosphere in which design is driven from its uses and meanings. Understand that design is language.

It is obvious that a cooperation of the user is established as a condition for updating the product design. We can say this more precisely: a design is a product whose interpretative destiny must be part of its own generative mechanism; to generate design means to implement a strategy which includes the predictions of the movements of the other in relation to both predictable and unpredictable actions - as in any strategy. It is like this that a pragmatic semiotics of design discovery visualizes the existence of cultural codes in ordinary social practices whose purpose is to aggregate individuals. After that, it is the need for an instrument to read and decode such codes, in order to - more than predict - represent the world with iconic and indicial signs to the detriment of symbolic signs, in a clear investigation and discovery the reasons for the aggregation of individuals and the design itself.

So, regarding the interface between discovery and design by the pragmaticist philosophical input and the semiotics of Charles Sanders Peirce, doubt is an inherent factor in thinking about engineering in design. For sure, to know is to find out. In fact, every discovery reveals a number of information outside the area of knowledge. So, that is where we have the raw material to think about design.

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