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DESIGN AND CREATION: OUTLINE OF PHILOSOPHY OF MODELLING

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This article examines the relationship between creation and design. After defining the concept of a poiesis of design, the article considers the process of creation in design from the perspective of “work in progress” and shows that it is based on an infinite loop of co-determination between thinking skills and modelling skills. Redefined from the cultural theory of Bruce Archer, modelling is presented as the fundamental and characteristic creative process of design. Far from being limited to a technique of representation, it appears as the primary means of the project to “pro-ject” the future, through which the act of design is fundamentally defined: a practice of creation oriented towards the future. What is created by design can then be called an “idelect” or a concept of an ideal.

KEYWORDS: DESIGN, CREATION, POIESIS, ACT OF DESIGN, DESIGN THINKING, DESIGN DOING, MODELLING, PROJECT.

In 1937, at the Collège de France, Paul Valéry became the Chair of *Poétique*, which was created especially for him. By this word, coined from the Greek *poiêsis* (ποίησις, “creation, fabrication”), Valéry meant “anything that relates to the creation and composition of works whose language is both the substance and the means” (Valéry, 1937 as cited in Passeron, 1989, p. 14). *Poiesis* is the idea of studying the genesis of the poem as a creative process. Hence the more general concept of *poiesis*, theorized by René Passeron (1971, 1989) and taken up by the psychoanalyst Didier Anzieu (1981) and the semiotician Jean-Jacques Nattiez (1987). For Passeron, “Poiesis has no reason to be limited to the

arts of language” (Passeron, 1989, p. 14). Its purpose is “work in progress.” That is why, in 1971, Passeron suggested “expanding the position of Valéry to all the arts,” or even to “all works of man” (Passeron, 1989, p. 14). And that is how poiesis came into being “as a science and philosophy of creation” (Passeron, 1991).

In fact, Passeron says, “Poiesis has existed for a long time, but it hides itself like a shameful, diluted element, within the overall aesthetics” (Passeron, 1989, p. 11). From the Greek *aisthêsis* (αἴσθησις “perception, sensation”), aesthetics has meant, since Baumgartens, “the science of sensory knowledge” (Baumgarten, 1750, p. 121). Although it has sometimes been reduced (as by Hegel) to the only “philosophy of fine arts” (Hegel, 1832) or the science of beauty, it is generally considered as the science of art and everything related to the “judgment of taste” (Kant, 1790). But in the eyes of Passeron, to “finally recognize the independence of poiesis as a science and as a philosophy of creation,” (Passeron, 1989, p. 11) we must understand it in its original and general sense, that of a science of sensation and perception. Hence the following set of definitions.

First series :

Aesthetics thus devotes its study to emotional perception, whatever the object that strikes it, art or nature (Passeron, 1989, p. 12); We call poiesis all studies regarding the establishment of the work and notably the work of art (Passeron, 1989, p. 13).

Second series :

In short, poiesis is the philosophical promotion of the sciences of the *art that is made*: for example, according to poiesis, painting is a phenomenon of the studio. Conversely, aesthetics is the philosophical promotion of the sciences of the *art that is consumed* (here, painting is a phenomenon linked to galleries, museums, public places) (Passeron, 1989, p. 16).

In other words, we can consider poiesis as the study of the phenomena of creation and production, while aesthetics is (in the strictest sense) the study of the phenomena of perception and reception. In this perspective, in order to avoid any ambiguity with conventional uses, it may be preferable to adopt the semiotic formulation of Jean-Jacques Nattiez (1987), who distinguishes between *poietic processes* and *esthesis processes* (Nattiez, 1990, p. 15). The latter term has the advantage of being free from the issue of beauty, to which the term “aesthetics” sometimes tends to reduce itself, to focus on the issue of sensory perception in all its dimensions.

What we suggest is to further broaden the perspective by extending the field of *poiesis* and *esthetics* to what is produced by design. The purpose of the esthetic of design is

the *project that is being experienced*, while the object of the poiesis of design is that of the *project in progress*. In this study, we focus on the latter in order to examine the relationship between design and creation, and answer the following questions: In what way is design a practice of creation? What is the creative work of a designer? In what sense can one speak of an “act of design” and how does it work?

THE “ACT OF DESIGN”: THINKING, MODELLING

The *poiesis* of design is the study of design as a creative process, that is to say, as the “act” of a creator. This act can be decomposed into two dimensions, which, in reality, are intimately intertwined and perfectly inseparable: the dimension of the act of thinking (*design thinking*) and the dimension of the act of making (*design doing*).

The first dimension considers the activity of design as a process of thinking. A *project in progress*, it is mainly a thought taking shape (figuratively as well as literally). In this case, design is the heir of its English etymology: *to design*, to conceive according to a plan, an intention, and a purpose. The thinking activity of the designer is thus a matter of conceptualization. But this conceptualization itself can be understood in two ways: firstly, it is a *thought-that-thinks* (conception of the project), in the sense that the objective is to produce a creative concept, that is to say, an idea that structures the creative process and must be transposed into a scenario (project scenarios); and secondly, it is a *thinking thought* (Bourdieu, 1996, p. 31) (conception of the world), in the sense that the aim is to feed the project with a philosophical reflection on the human experience through an analysis of uses and social practices. It is in this sense that “design is ultimately a thing that thinks” (Vial 2010, p. 11). It is also in this sense that one must understand the undeniable philosophical dimension of the fashionable term “design thinking” (Brown, 2008, p. 84), which attempts to make more intelligible the thinking dimension of the creative process at work in design.

The second dimension considers design as an art of making or manufacturing. A *project in progress*, these are scenarios taking shape through drawings, plans, sketches, models, templates, zonings, storyboards, wireframes, etc. (each design specialty has its own vocabulary). In this case, design is the heir of its Latin etymology: *designare*, which is marking with a distinctive sign, from the word *signum*, “mark, sign,” that is to say the forming of signs and the signing of forms, whether they are spatial, voluminous, textile, graphic or interactive forms (each design specialty has its own formal environment). Design is therefore a matter of drawing, that is to say, more generally a matter of prototype.

The designer's art of making is the *art of prototype making*. While an artist produces "art works," a scientist builds "theories and experiences" and a philosopher creates "concepts" (Deleuze & Guattari, 1991), a designer designs and manufactures "prototypes." Hegel's famous phrase "We think in names" (Hegel, 1830), § 462) is not suitable for designers, who *think in forms*. The form creates drawings, models, prototypes. This is precisely what distinguishes the *act of design*: this particular form of creative ability, which operates in the formal modelling of ideas, with a whole range of prototyping tools.

The *act of design* is therefore an act of modelling thought. It includes thinking skills within modelling skills and one does not go without the other. The dimension of the *act of thinking* and the dimension of the *act of doing* are indeed inseparable. All designers constantly experience it: in the reality of the *project in progress*, the execution feeds the design at every moment (doing to think), as much as the constantly updated design feeds the execution (thinking to do). The act of design is thus based on a potentially infinite "loop of co-determination" (Darras, 2011) between thinking and doing. To the point when, at some moment in time, the designer must be able to make the decision to put an end to the project, which, by definition, could be endless.

MODELLING AS A CREATIVE LANGUAGE

In the mid-1970s, Bruce Archer, a professor at the Royal College of Art in London, argued that there is a way of knowing, and hence a way of thinking that is specific to designers. In 1979, he wrote:

My present belief, formed over the past six years, is that there exists a designerly way of thinking and communicating that is both different from scientific and scholarly ways of thinking and communicating, and as powerful as scientific and scholarly methods of enquiry, when applied to its own kind of problems (Archer, 1979a, p. 17).

This way of knowing that is specific to designers is exactly what we are trying to define as the "act of design." It is also interesting to analyze how Archer contemplated this. According to him, it is an educational and cultural issue. It is nothing less than defining a third educational area alongside the scientific and literary areas. When one eliminates the complexity and refinement, these three essential skills remain the foundation of all education: reading, writing and arithmetic — what Archer called "the three Rs" (Reading, wRiting, aRithmetic) (Archer, 1979b, p. 18). "Reading and writing" are the essential skills

that founded the field of Arts and Humanities, while “calculation” is the essential skill that founded the field of Science. This led to the bi-partition of the Western educational systems, torn between two models of excellence, that of literature and science, to the detriment, unfortunately, of technology, yearning for recognition.

However, according to Archer, there is a third area in education, which focuses on “the making and doing aspects of human activity (Archer, 1979b, p. 18),” which more or less corresponds, in the French education system, to the technological area in which Applied arts have been classified. This dimension involves another essential skill, usually neglected by the formal education system, which is that of formal modelling. In other words, there is a way to express ideas other than by words (language) and other than by numbers (calculation): they are “*those ideas expressed through the medium of doing and making*” (Archer, 1979b, p. 19) that is to say through material forms. For Archer, such ideas have a particular intellectual nature and constitute a genuine and “*a distinctive facet of a culture,*” the “material culture” as it relates to “the artefacts themselves and the experience, sensibility and skill that goes into their production and use” (Archer, 1979b, p. 19). In a broad sense, all fine arts, all crafts, all techniques belong to this culture, which could therefore have been called “Arts” but, according to Archer, the term has been confiscated by Arts and Humanities. It could also have been called “Technology,” but this term is not very popular and often devalued. This is why Archer suggested calling it “Design spelt with a Big D” — to differentiate it, in English, from the common meaning of the word *design* (“conception”).

The need to give it a name and to distinguish it from the two other cultures is justified according to him by the fact that, in the field of knowledge, there is indeed a way of knowing, different from Science and Humanities. This way of knowing that is specific to designers (*a designerly way of knowing*) is a form of *practical knowledge* based on “sensibility, invention, validation and implementation.” While the main language of science is mathematical notation and that of Humanities is natural language, says Archer, “the essential language of design is modelling” (Archer, 1979b, p. 20). In other words, modelling, prototyping, giving form, is nothing other than speaking a language. Drawing is the art of thinking and modelling is a creative language. And this is also true both for applied arts, understood as the arts of designing, and for visual arts, understood as the arts of giving form (πλαστικός “malleable, related to modelling”). That is why we must now examine what characterizes modelling in the design discipline.

MODELLING IN DESIGN: A PHILOSOPHY OF ANTICIPATION

If the creative act of design is an act of modelling, it should not however be confused with a purely technical procedure. The prototype is not only a tool, a method, a stage. It is a place where one projects an ideal, where one makes ideas for the future, where one works with the materials of the future. Design thinking is basically a thought of anticipation. This is why it is creative and where its creativity lies. It maintains a consubstantial link with the future. Herbert Simon was the first to have pointed this out, in 1969, in *The Sciences of the Artificial*: “Everyone designs who devises courses of action aimed at changing existing situations into preferred ones, is a designer” (Simon, 1969, p. 111). The authors of the recent book, *Design Research Through Practice* confirm it: design is future-oriented because “Designers are people who are paid to produce visions of better futures and make those futures happen” (Koskinen et al., 2012, p. 42). In other words, Alain Findeli agrees, focusing on the concept of a “project” dear to designers’ hearts:

The approach of design on the world is *projective*. By this I mean that, for designers and researchers, the world has to be perfected, it is a project and not just an object that must be described, whose causes must be explained or whose meaning must be understood (Findeli, 2006, p. 23).

Design is therefore a future-oriented creative practice underpinned by a meliorative purpose. The objective is to use creation to improve the conditions of life, in order to “improve or at least maintain the habitability of the world” (Findeli, 2010, p. 292). This is what we have, in other articles, called “factitive enchantment” (Vial, 2013) which design creates: its creative purpose is to make-be and to make-make (which is the meaning of “factitivity”) to remodel the possible experience and to improve the experienced quality of existence.

In this perspective, the concept of modelling in design takes a philosophical and anthropological aspect bordering on the quasi-political. Because it is not only a technique of representation, as it can be in other design disciplines such as engineering. It is a place for the development of an ideal that is taking form. The prototype is an attainable ideal. Through it, the designer creates ideas, but these ideas are not the “concepts” of science or philosophy, nor the “affects” or “percepts” of art (Deleuze & Guattari, 1991). This is what we suggest to call “idealects.” By this we mean concepts in the form of ideals, provided they are rationally achievable ideals. These *idealects* are ideas that are an executable

must-be. This is why *idealects* has the form of both a desirable ideal and the strength of an operational concept. It produces the design of a desirable and attainable future.

And as design is always a situated practice, an *idealect* is always limited in scope, restricted to particular areas of intervention of the project in which it develops. For example, a design project in the medical field produces an *idealect* of medicine, that is to say, a certain idea of what medicine *should be*. And this *idealect* should not only be sensitive and perceptible within the practical device to which the project leads as a creative process (research for design) ; it must be formulable and enunciable in a theoretical “research project” (Findeli, 2005) that accompanies the creative process (research through design). An *idealect* is something on which one can construct theory.

In addition, as ideas in science, *idealects* in design are falsifiable. Their validity is ephemeral because they require constant updates based on social evolution. Each of them has a vision of the world that makes sense until it is sufficiently implemented to be exhausted. The *idealect* is the product of an era that renews itself with the era. For example, Le Corbusier’s concept of a “housing unit,” whose model is the famous *Cité Radieuse* in Marseille (France), is an *idealect*. That is to say, a certain idea-concept of what a home should look like at a given time. But this era is now outdated and this *idealect* is obsolete: one no longer builds housing on the principles of Le Corbusier because one is now driven by other *idealects* related to housing, which are based on the criticism of previous *idealects*. An *idealect* is therefore a certain vision of the world that is projected at a given time in a given area, that will feed the model of the future that one chooses for a certain time and that will inevitably exhaust itself.

This is why the concept of the “project” is so decisive in design, as the project in the making is the future searching for itself. Thus design is literally a *pro-ject*, in the sense it projects before us an *idealect* yet to be implemented. Modelling the world does not therefore mean representing it but re-thinking it. Modelling in design is not just a technique; it is a philosophy of the world.

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