



DESIGN SEMIOTICS IN USE

SPEAKER

LUMINOUS DISPLAY

DATA TRANSCIEVER AND
POWER SUPPLY

LOCATION TAG

EDITED BY
SUSANN VIHMA

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DESIGN SEMIOTIC IN USE

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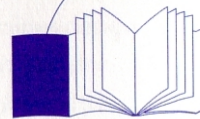
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FOR A SEMIOTICIAN and a designer to work together, they have to share the same “world”. As the first one describes *semiotic forms (relations)* and the other creates objects “in substance” (*terms*),

they have to agree on a common ontology. Yet

it follows from this that the *differential principle* (“meaning is difference”), which is the basis of structural semiotics¹ constitutes one of the limits of the paradigm. Traditionally, semiotics was conceived as a descriptive discipline.

However, a semiotic description itself participates in creation. Arguing the contrary would reduce the description to simple repetition. Thus, the heuristic power of semiotics is obvious. That is not to say that the activity of the semiotician can reach beyond the limits that *semiotic forms* impose: the semiotician is not a creator “in substance”.

In a paper discussing the links between semiotics and ontology, Jacques Fontanille (2004b) argues that semiotics has for a long time defined meaning as “semblance” or “simulacra”, because texts, images, movies studied by semiotics were supposed to re-create or represent reality.² Initially, this approach to meaning has guaranteed a satisfying semiotic relation to its objects of research (by

DISPOSITIONAL PROPERTIES OF DESIGN OBJECTS

1 See Saussure 1916, and Hjelmslev 1943 : “In language there are only differences”.

2 See http://www.unilim.fr/pages_perso/jacques.fontanille

keeping *semiotic objects* at a distance from reality). But today it reveals a set of problems which challenges the semiotician to call *the approach itself* into question.

My concern here is the problem that semiotic research has expanded to include various other *semiotic objects* than texts, images or movies, like practices or design products. Therefore, various semiotic “modes of existence”³ have to be reconsidered. These new semiotic objects do not represent any reality, but constitute our (cultural) world.

“From the moment that the field of research of the discipline [...] is not limited to the semiotic objects built and determined either in texts or images, this approach (to meaning as semblance) is henceforth hardly possible to maintain. The meaningful processes inherent to a design object or a social practice can include the production of semblance, but cannot be reduced to it. A general semiotic can no longer be represented as a production of semblance, and has to face the ontological dimension of meanings it conveys with an open mind.”⁴

These remarks are crucial for an understanding of what is at stake in semiotics of objects. The expansion of the field of semiotic research to semiotic objects whose narrative dimension is no longer essential but casual, leads one to see the question of the existence of objects as well as their properties in a new light. As far as semiotics is concerned, what is at stake is nothing less than understanding how experience of the world becomes a signifier (or an expression plane, as in Hjelmslev). Contemporary structural semioticians⁵ have given several suggestions without precisely establishing their compatibility or operativity in the discourse on the specific issue of neither technical objects nor design objects.

A NON-SEMIOTIC (AND TEMPORARY) WORKING DEFINITION OF DESIGN OBJECTS

In addition to the epistemology of semiotic research, the definition of the design object should be clarified. I will suggest in this article a non-semiotic definition *in principle* for the concept of ‘object’, one that may serve to establish the temporary consensus necessary to begin the study. Thus, ordinary material objects will be

3 See Greimas & Courtés 1979: “semiotic existence”.

4 Fontanille 2004, 2; tr. by Monjou for this article.

5 Such as Bordron 1998, 2004; Fontanille 2004b or P.-A. Brandt 1995.

considered separate from the ordinary conception process, which is called design or industrial design⁶. Instead of reducing the *semiotic object* to plasticity or to aesthetics, I will take the position that an object can be conceived as a design object when it is not destined for itself only. *Transitivity* or *propensity criterion* (possibly temporary) will provide the foundation for a semiotics of the object⁷. Thus, 'object' will mean a stable, formed material artefact endowed with two or three dimensions and, more particularly, with an intentional direction (or transitive direction). This definition can certainly be discussed. Here, however, the point is not to take a definitive stand, but to provide a starting point for research. The main idea is that all the other dimensions of the design object depend on the transitive dimension.

Taking transitivity into account, one finds that it roughly matches the functional dimension of objects (temporarily reduced to, e.g. simple tools or instruments, or even technical objects). However, the concept of function remains a semiotic riddle. What does "function" really mean? What is meant, when an object is said to afford this or that? It is simply given a certain power. But the concept of *power*, in turn, is ambiguous: it requires that the object has to be considered according to a very special mode of existence. Indeed, the field of functional objects is a sphere in which the observable (or *actual*) part of the object is very low. In fact, when you look at an object, you can actually see forms, colours, etc., but what we call function cannot be actually observed in the object itself (*in praesentia*). The distinguishing feature of functional objects (regarded as tools or instruments) is here considered from a different angle than that of "actuality". Seen as functional entities, objects are initially produced, conceived and considered as *potentials*, such as *powers*.⁸

Within the frame of the classical semiotics of semblances (i.e. in texts), the question of power is clearly defined: in modal grammar, *power* (like all the other

6 See Vihma 1995.

7 Here, I agree with Barthes (1964, 250): "il y a spontanément sentie par nous, une sorte de *transitivité* de l'objet : l'objet sert à l'homme à agir sur le monde, à modifier le monde; à être dans le monde d'une façon active; l'objet est une sorte de médiateur entre l'action et l'homme. On pourrait faire remarquer d'ailleurs qu'il n'y a pour ainsi dire jamais un objet pour rien ". See also Fontanille 2003b, 62.

8 I have paid particular attention to the necessity for contemporary semiotics to free itself from the conception of meaning as semblance (or "simulacra"). This project can start with an ontology of functions and techniques, defined as *powers*.

grammatical modalities) belongs to the observable part of discourse⁹. For example, in texts, you can see modal verbs present in the utterances (“I can dance”, “You must go”). But when objects, even if they are artefacts, are said to be parts of the physical world and no longer semblances (i.e. parts of novels, pictures or movies), the question of power has to be raised in a slightly different way.

Now, with objects “in flesh and bones” as one says, what appeared to be obvious (in texts or movies, for example) becomes less significant. The semiotics of technical objects (endowed with a functional purpose) has to be conceived according to another mode of existence, totally different from the realised or actualised mode. In other words, I have to postulate a certain depth to design objects (an ontological depth), one which recognises a set of dispositions to action. But that is not to say I consider them as magical objects. The *depth* we talk about must not be conceived as what modern ontology and epistemology relegated to the position of metaphysical entities, occult qualities and other “virtues”, relics of Aristotelian finalism.

ARTEFACTS AS DISPOSITIONAL OBJECTS

It is interesting to note that, for some years now in the field of sciences and epistemology, the question of dispositions has re-emerged, for reasons that deeply touch the semioticians’ concerns. In order to understand what kind of entity can correspond to dispositions, I will present a short overview of relevant research¹⁰. These theories present numerous interests for tackling semiotic problems linked to artefacts that are design objects. Mumford confirmed this particular point in 1998. In the first pages of his work on dispositions¹¹, he chose the example of artefacts:

“The essence of many artefacts is dispositional. Thermostats, thermometers, axes, spoons, and batteries have dispositional essences. What it is that makes certain artefacts the thing they are is that they have a particular set of dispositions. [...] What is the right sort of disposition for a thermostat? Roughly,

9 About modalities in general, see Casullo 2005. About modalities in semiotics, see e.g. Greimas & Courtés 1979.

10 My ambition is not to proceed to an exhaustive examination of the question, but to briefly show what is at stake and the interests this presents for the semiotics of objects.

11 Mumford 1998, 8–9.

for something to be a thermostat it must be sensitive to changes in temperature and to be able to trigger a switch if a pre-calibrated temperature threshold is crossed. Anything which has this disposition, if I am analysing the concept correctly, is a thermostat regardless of the constitution that affords such ability. [...] Need all dispositions be supported by a mechanism? Do mechanism cause dispositions, constitute them, or is some other relation involved? Can we say that the disposition and mechanism are two distinct qualities and does this mean that the world is populated by two different types of property?"

Obviously, even among those, such as Mumford, who has an interest in dispositions (for the question raised), not all philosophers of science or scientists agree with their mode of existence, nor with their reality. Thus, roughly speaking, three positions are possible: i) the reductionist position (Nelson Goodman), ii) the categorical position (David M. Armstrong), and iii) the dispositionalist position (Karl Popper).

i) REDUCTIONISM. Goodman (1955, 44) tried to show the urgency and necessity for the philosophy of sciences to seriously consider the problem of dispositions. Nevertheless, for him, the problem of dispositions is not an ontological issue, but one of semantics. In other words, Goodman does not think that dispositional properties exist in the literal sense; to acknowledge the existence of dispositional properties in objects one would reintroduce the mysterious modality of the *possible*, the modality that the analytic tradition (under Carnap's impulse) seeks to reduce.

"Besides the observable properties it exhibits and the actual processes it undergoes, a thing is full of threats and promises. The dispositions or capacities of a thing – its flexibility, its inflammability, and its solubility – are no less important to us than its other behaviour, but they strike us by comparison as rather ethereal. And so we are moved to inquire whether we can bring them down to earth; whether, that is, we can explain disposition-terms without any reference to occult powers."¹²

As Gibson (1977) would do later in the context of his theory of affordances, Goodman acknowledges that the meaning of an object is not exhausted by its observable properties, since all objects present a certain depth which surpasses

12 Goodman 1955, 40.

their current presence; dispositions therefore constitute another mode of existence for objects. However, despite their importance, Goodman returns these dispositions to the darkness of “ethereal” powers of old metaphysics, thus depriving them of ontological reality.

“Beyond making them carefully and declaring them loudly, about all that we can do is to disparage any alternatives. If your conscience is more liberal than mine, I shall call some of your explanations obscure or metaphysical, while you will dismiss some of my problems as trivial or quixotic. [...] Some of the things that seem acceptable to me without explanations are powers or dispositions, counterfactual assertions, entities or experiences that are possible but not actual, neutrinos, angels, devils and classes.”¹³

II) CATEGORICALISM. According to Armstrong, far from being independent properties, dispositions depend on basic or categorical properties, i.e. non-dispositional properties. In other terms, as far as the “categoricalist” view is concerned, dispositions (“to be fragile”, “to be flexible”, “to be sharp” etc., or to be “sit-on-able”¹⁴) are indeed properties of objects, but dependent on categorical properties (those which interest either the physicist or the engineer). Thus, when one applies a dispositional predicate to an object, i.e. “flexible back rest of a chair”, this predicate necessarily depends on a non-dispositional basis. Therefore, according to Armstrong, it is its non-dispositional basis, which constitutes the reality of the disposition, which we are tempted to call – and rightfully so – a “dispositional property”.

“To speak of an object’s having a dispositional property entails that the object is in some non-dispositional state or that it is in a non dispositional state has some property (there exists a ‘categorical basis’) which is responsible for the object manifesting certain behaviour in certain circumstances, manifestations whose nature makes the dispositional property the particular dispositional property it is.”¹⁵

Therefore, if a glass is fragile or a knife is sharp, it is because the molecular structure of these objects differs from that of sturdy glasses and dull knives.

13 Goodman, 1955, 32–33.

14 Gibson 1979, 128.

15 Armstrong 1968, 86.

However, Armstrong's hypothesis contains the following inconsistency: only categorical properties are real and potentialities do not exist in a literal sense. The idea of scalar gradation between actual and non-actual (which would include several "modes of existence", as Greimasean semiotic theory suggests) is therefore unknown to Armstrong. Categoricalism is an ontological monism, which does not allow an intermediary term between existence and non-existence. That is why his theory is called "categoricalism"¹⁶.

"It seems that it is impossible that the world should contain anything over and above what is actual. For there is no mean between existence and non-existence."¹⁷

III) DISPOSITIONALISM. The affirmation of the reality of dispositional properties appears in its most open and radical (and also perhaps most problematic) form in the theory called "dispositionalism" by Karl Popper and D. H. Mellor¹⁸. According to this theory, all object properties are dispositional. The first consequence of this theoretical position is the disappearance *ipso facto* of all relevant distinctions between dispositional properties and those which are considered categorical (or basic properties), as Armstrong believed. The second consequence (a reformulation of the first one) is that the predicates which usually designate non-dispositional properties (or categorical properties) become dispositional predicates and always refer to dispositional properties.

This radical and undoubtedly counter-intuitive argument may seem surprising, because it is likely to put into question reality as we know it, by propelling it into a sort of generalised *virtuality* (a virtual world). Popper explains that when one analyses the physical nature of objects, one intuitively considers the basis of objects to be their physical or spatio-temporal structure (the structure studied by physics and mechanics). Whether an object is hard, large, endowed with a stable form, it resists penetration or being moved, etc.; one conceives of these qualities as constituting the fundamental or categorical properties of the object. After further consideration, however, mass, resistance and other qualities are only conceivable in relation to their dynamic *efficiency*. For example,

16 See also Armstrong 1997, 69–84): "all true properties [...] are non-dispositional".

17 Armstrong 1969, 24; see Mumford 1998, 174.

18 For a complete presentation, see Armstrong 1997, 75 and f.

in physics, an electron can only be defined in relation to its efficiency, that is, in terms of its “capacities” or “dispositions” to act in an efficient manner, in other words, in relation to its “propensities”. What an electron does will define its nature and describes its essence. Beginning with macroscopic dispositional properties such as hardness, elasticity, fragility, or malleability, etc., physics looks for the underlying foundation of these properties (such as length, volume, pressure, electrical charge, etc.); but indeed, what physics truly seeks to explain is the ability of the objects studied to react or to be affected in a certain way. Finally, the goal is not to distinguish between dispositional and categorical properties, but rather to distinguish between dispositions and *pseudo* (or false) dispositions. Thus, according to Popper, dispositional properties define the nature of objects in such a way that the entire universe must be seen as a universe of propensities.

“This view of propensities allows us to see in a new light the processes that constitute our world: the world process. The world is no longer a causal machine – it can now be seen as a world of propensities, as an unfolding process realizing possibilities and of unfolding new possibilities.”¹⁹

CONCLUSION: TOWARD AN ECOLOGY OF PROPERTIES?

The question of dispositions allows me to approach a group of questions in a new light, one which cannot be ignored by semiotics of design objects. What type of coherence do the numerous dimensions have with each other to present a unified object? How to understand the levels of dependence that the technical, technological, plastic and ergonomic components have within the object? Furthermore, how to make the various abilities collaborate, since they intervene in the processes of the conception of objects (such as design, engineering, semiotics, ergonomics, etc.), considering the fact that each of them is in charge of particular types of properties?

More than in any other semiotic field, the question of properties appears to be essential to an understanding of design objects and their functions. Obviously, no one is obliged to subscribe to “pan-dispositionalism” like the one Popper proposes. Indeed, numerous objections have been formulated against the propensity theory,

19 Popper 1990, 18–19.

which does display several difficulties²⁰. As Ullin Place has remarked (1996, 92–120), one of the problematic consequences of the propensity theory is the universality of intentionality, a notion developed by Brentano and Husserl to define the feature of *mind*. Indeed, when one states that the objects of the physical world (artefacts included) are dispositions or “powers”, it is tantamount to seeing intentionality everywhere. Ultimately, however, this extension should not be surprising for semioticians, because Gibson’s propositions²¹ were the same:

“Actually, an affordance is neither an objective property nor a subjective property; it is both if you like. An affordance cuts across the dichotomy of subjective-objective and helps us understand its inadequacy. It is equally a fact of the environment and a fact of behaviour. It is both physical and psychical, yet neither.”

Sceptics who do not believe in the relevance of “ecology of properties” could adhere to Gilbert Ryle’s opinion. According to Ryle, the dispositions of objects depend on the “contingent” laws of nature, not on the properties of the objects themselves. What, then, are these laws which rule the dispositions of design objects? Keeping in mind that these objects are first and foremost cultural rather than natural, one response may be found, following Fontanille, with the help of “*situations*” and “*form of life*” (inspired by Wittgenstein) as levels of semiotic relevance.²² In the field of culture, situations and forms of life are like so many “semiotic worlds”.

20 For a detailed study of possible objections to the propensity theory, cf. Mumford 1998 or Armstrong 1996. Notably, the theory of propensities presents certain risks concerning the application of the notion of truth. Then, as Armstrong demonstrates, in the event that the so-called disposition does not manifest, one is forced to admit that the object still contains within itself a hint of the manifestation that did not occur.

21 Gibson 1979, 129.

22 About situations and form of life as levels of semiotic relevance, see e.g. Fontanille, 2004 and 2008.

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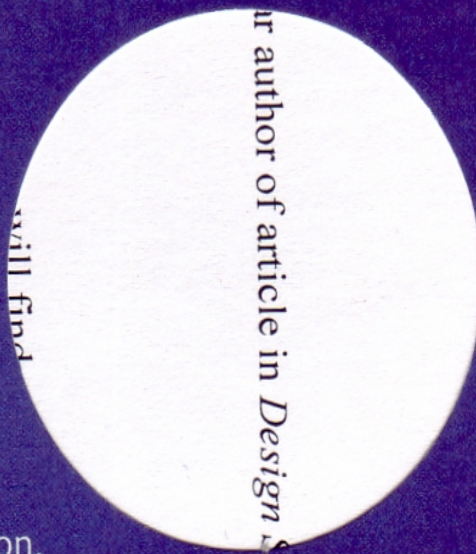
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— OPENING UP NEW INSIGHTS into design theory, the articles in this volume cover a wide range of approaches into semiotics and design communication.

— DESIGN IS CONCEIVED AS A BROAD FIELD, not limited exclusively to technology or usability. The focus is on the process of signification, highlighting the representational, communicative and aesthetic qualities of products in their context. The purpose of these theoretical reflections is to contribute to design quality at large.

— CLASSIC SEMIOTIC TEXTS by Peirce, Barthes, Hjelmslev and Greimas as well as others are brought to bear on current issues in design semiotics with a view to discussing useful concepts, models and methods. Mattozzi breaks up the design product into its vital relations, Volonté and Crilly & Clarkson discuss communication models, and Markussen presents an example of aesthetic interplay.



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