OBJECTS IN ORGANIZATION

Fabian Voegeli, December 2004. Project »Digital Objects« lectured by Matthew Fuller and Rolf Pixley at the Piet Zwart Institute, Rotterdam.

Somehow it seems to be strange to write an essay about objects...

Characters: Hilde, writer of the essay, studying Media Design.
Fred, notorious interrupter with some nice clues about what Hilde studies.
Setting: A mix between presentation and discussion of Hilde's latest essay on digital objects. Taking place at a kitchen table during a hot dinner. An atmosphere very much like the one in Dr. A. Tomsky's and Dr. M. Achinovic's laboratory.

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Fred: An object is something static, existing – if not even pre-existing –, resting, isn't it? Maybe you should choose a more dynamic, living and significant topic to think all day about: like systems or networks?
Hilde: Yeah you know...
Fred: Come on, you're not an archaeologist digging out the history of elapsed times.
Hilde: No, I'm not, but can you explain me why the hell these famous guys write about technology based on objects organized in a logical or hierarchical order? And do you have answers to the questions what the relations between the technical and the social are like, how they influence each other and if they can be thought as one and the same 'thing'?
Fred: Ahhh, no, but what do you wanna tell me with?
Hilde: Listen up, let me try to bring together some thoughts, texts and ideas... I'll try to build up a draft of paths from objects' structure to their materialities, openness, relations, inscriptions, practices and influences. And then, let's discuss again where this could all lead to.

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Introduction

Using the term “object” – like it is set in the thematic project’s topic “digital objects” – inevitably (at least for me) causes arising several questions:
• Do all the different things, aggregates, minds and concepts termed “object” have something in common? Or more specific in the project’s context: are there parallels between physical technical objects and digital objects (even if I’m aware of the possible inaccuracy of these terms)?
• How is an object related to its environment? Is an object a fixed unit with well defined borders or is it a ‘weak’ agglomeration (of what)?
• Do objects have a structure or organization and do they consist of other elements?

Questions emerge new questions. Can an object, its outer environment and inner structure be distinguished from each other?
I do not even know if it makes sense to answer all of these questions, because some might have emerged through a very limited understanding that determines the questions and possible answers before they have been given.

Fred: Well my dear, that’s why it is important to question even the questions.

Nested Loop with – or without – Core

As I am just going to point out, one widespread model of (technical) objects seems to be that they are units containing several sub-units which again are composed in the same way of several such units. Fig. I illustrates this nested, never ending loop.
In contradiction to it, the model of a nested core (see fig. II) claims the existence of an end of the nested loop; of the essence without the object could not be.

Let me start with the model of the core (fig. II).
Reading the introduction to Baudrillard’s (1996) “The System of Objects” leaves the impression that he is emphatic on a structure of objects (and everything else?) containing a core or – as he writes – an essence.
The problem with such an understanding is that it cannot substantiate where to set the end and beginning of such a structure. Baudrillard (1996) establishes the term of ‘technemes’ to describe “those simple technical elements - different from real objects - upon whose interplay technological evolution is founded”. Sure it is easier to make one believe in something if there is even a specific term for. But it still does not answer what the asserted ‘essential core’ of an object is and why it is so. Also interesting to note is that he differs technemes and “real objects”.
Meant to answer these questions Baudrillard (1996) writes:

> “what happens to the object in the technological sphere is essential, whereas what happens to it in the psychological or sociological sphere of needs and practices is inessential.” and

> “the most ‘essential’ and structural aspects of a coffee mill, and hence the most concretely objective things about it, are the electric motor, the electricity furnished by the

power company, and the laws governing the production and transformation of energy; what is already less objective, because it depends on particular person's need, is the mill's actual coffee-grinding function; and what is not objective in the slightest, and hence inessential, is whether it is green and rectangular or pink and trapezoid."

Again: while Baudrilard (1996) defines for example color and physical shape of the object as the inessential part, he lacks to define why unmentioned parts are not belonging to the essential part. A consequence of dividing an object into two groups is that every element of it must be part of one of them. As the mill would not produce drinkable coffee without beans, it might make sense to define them or maybe the container to put them in as essential. And instead of the law to produce energy, language and number to formulate such a law could be seen as essential. As well when he mentions the production of electricity, I cannot explain why the cultivation of coffee plants remains uncovered.

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Fred: You wanna know my opinion? It's the desire for definition and determination which urges Baudrillard to set the essences. The otherwise emerging inaddressability of a never ending loop would be unbearable.

Hilde: That's hard. But I guess you're taking the consequences of the many unacknowledged questions arising again:
Where do I set the essence? Or in more general words: how deep shall I dig to find the core(s)? Is it not a looping, never ending archeological excavation? Is it possible to imagine a different model of how an object is organized? And how does an object (or the mental model of it) change if its structure gets changed?

Fred: Right. And finally you may wanna ask if a level of technique exists where it is impossible to predict what is coming on the next one?

Hilde: You're anticipating my details a bit, but yeah, I mean, Zerzan – at least in his essay 'Number: Its Origin and Evolution in' published in 1988 – traces back technology itself to language and number/math and sees its motivation in the division of labor and the distinction from human and nature.
So, is that the level where the digging ends?

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Taking these various concerns into account I want to propose here an apparent slightly different mode(l) of understanding objects: a nested, but never ending loop without essential cores. On the one hand one might say that the object just gets declared insignificant by doing so, and on the other hand it can be seen as a chance to get rid of prevailing understandings and determinations.
With fig. I I tried to outline the structure of objects applied by the nested loop model. Imaginable consequences of applying this instead of the core/essence model to objects like a coffee mill could be:
• Taking into account a much wider area when speaking respectively thinking about the object: its history, production, influence on environment etc.
• The object could loose at least a part of its borders and character of a unit. Rather the physical tangibility than the awareness of the object's relation change. A kind of disassembling can take place.
• Maybe even a recursive loop is possible to imagine; a sub-object based upon its super-objects. (Apropos the relation "to base upon" seems to be applicable to both 'directions' anyway.) That would not only annul the essence model, but at some point also break every thinkable hierarchy.

But of course all these options do not have to emerge; so many possible things do not. Why should I create a new or even own mental picture of an object as long as it works like it is?

At this place it makes sense to move on with these thoughts a little bit away from objects. Towards reflecting on the own social environment: an excursus on political radicality.

Excursus Radix & Core

Deleuze/Guattari (1987) proposed Rhizome as a mode(l) of acting with each other. The Rhizome is already interesting due to its nearly impossibility to draw a diagram of. And it contradicts Baudrillard's concept of the essential core very much, but he rather uses it as a description of existing objects than as an achievable proposal for you and your affinities – like Deleuze/Guattari (1987) do. Based on this difference I am wondering if models of understanding should be the same on you and your environment, on how you interact with affinities and analyze objects surrounding you. In more concrete, but still abstract words: if you are trying to live as a Rhizome with affinities, should you also try to apply such an understanding onto the rest of your environment?
In a political setting: with a radical approach against existing systems of e.g. suppression, patriarchy, racism, nationalism and capitalism I would deny the value of reforming such establishments. Behind such an denial stands the analysis that the problem of these pilloried circumstances base upon their root or radix respectively. That is were the "radical" approach wants to change the problem: by cutting it down on its radix and let emerge something else.
A radical approach not taking into account this contradiction forms its target – its object – into a structure with a radix, what seems to be pretty close to the idea of the core addressed above.
Traditionally Marxism traces back all social problems to a "main contradiction": the contradiction between labor and capital. The ideology gets stuck on the essence...
More undogmatic approaches do not form such a core and analyzes social problems more diverse. For example the theory of the so called "triple oppression" – race, class, sex – emerged due to such views.

Besides the nebulosity if such a playful and sketchy outline of parallels between examined objects and a bit utopian ideas is useful at all, the most obvious difference between the two still are their metaphors: core vs. radix.

Other connecting Structures

Fuller (2004) restates the principle that (digital) objects never are alone while at the same time the relations between them are not total: "There are [...] enormous, insensible gaps between knowable parts."

First of all that means that no Rhizome-like structure is present between objects. Otherwise every object would be connected with each other, what would fill all gaps.
But what kind of arrangement of objects does this principle strength or undermine?
One possibility is to answer in the affirmative for a strictly layered model (fig. III) where one could argue that not everything can be connected with each other in a consistent layered structure because the different layers separate their neighbors from each other.
But by taking a broader view you also might say that of course every part is connected to each other even in a strictly layered structure because such a system does not allow autonomy, so an authority always has to control all its subordinates. And a connection also exists if there is a an 'intermediary instance' in between two nodes, does it not?

Another illustration to come closer to the questions is fig. IV where two different objects are connected by one of there sub-objects they have in common. That might be the below mentioned API for a script, the batteries for a megaphone or the coffee for the coffee mill and the mill for the coffee respectively.

Other models like nowadays often covered networks I do not want to examine here, because they attract already enough attention. To have a closer look to simple ideas like these nested structures and to find diversities in them seems more interesting to me.
Nor do I directly address the question if objects are substances or bundles of their properties – like summarized on wikipedia (15/12/2004) –, even if it can be seen closely related to what I am outlining here.

I cannot conclude definitely for or against the existence of a core in an object. But by continuing to use the nested model I want to propose another thesis: an object always contains sub-objects which can exist by itself, but which are required for the object's uses and in particular normed functioning.
Important to me is that the structure described with the verb "contain" (and the adjective "nested") can be translated to the terms "relate(d)" and "connect(ed)". This exchange breaks the nested models into a more networked one and might open other modes of understanding objects and their acting.
Let me take a megaphone and a software script as examples for the two latter theses: while the megaphone needs batteries to amplify the input to the output, the script must be connected to an API (application program interface) to perform its instructions. The sub-objects are shared with other objects why they can function without these specific objects. But of course they need some objects having them 'implemented' as sub-objects otherwise they would not have any function. Interestingly also both of these objects (megaphone and script) exist without the concrete connection to the mentioned sub-objects (batteries and API), but probably only because a mental picture of the objects (in connection to the sub-objects) is already available in the users/designers mind.
Do you agree if I conclude/summarize here in the following way? Objects exist without functioning (respectively without fulfilling their normed use), but only because their is such a use (respectively a mental picture of it) – a "mental object".
Like token as an spontaneous example of creative use of a computer by Florian Cramer during his talk on executable code at the Dutch Electronic Art Festival 2004 it is worth mentioning that a physical object – as long as it has the right size – always can be used to throw around or to smash something. An analogy for digital objects does not cross my mind.

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Hilde: Does any such analogy occur to you, Fred?
Fred: Let's think...Delete is something else as it's part of the designed functions. Hmm, no idea, but let's keep it in mind.
Hilde: What a bummer. But here the latest we arrive at the topic of materiality.

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And what is about Materiality?

Some main questions to get into: can the difference between a technical and a digital object be seen in its materiality? Is a technical object always physically tangible (through its physical borders) and a digital one not? Does the mental picture of a technical object as a unit agree with its physical manifestation while the mental picture of a digital object does not due to a missing united physical manifestation because it is for example stored on a hard disk which then again would be a technical object? (But stored on a punch card it might be seen as a unit.)
Let's say, a file is a digital object. If so, I can say that its digital stored data is not an object by itself as long as it does not get presented as one file by the operating system because it misses a form of a unit. As the stored data also can be represented as a collection of bytes, these bytes might become objects.
Above I tried to develop an understanding of objects that sees them more independent from their physical manifestation. That could in a similar way be the case for digital objects like files. Because a file on my desktop does not represent itself, it needs to get processed through software. And the file can have a specific format (for example a PNG image) which enables the software to read it in a preconcerted way. But this format creates a new object within the file's allocated data: I can cut two PNG files together to one file and still the image processing software will show me only the first PNG image, because its format stops the software to read the second one by some kind of marking.
Can the same rules be operated on non-digital objects? Or is digital object just the same as a technical object with the difference that it uses a digital way of processing somewhere?

Such experiences lead back to an already addressed thesis: objects only exist in connection with their interpretation. Objects – and the definition what is belonging to an object respectively – are a kind of social contracts.

Actually the punch card is an interesting example because it is a physical object representing a digital code (there is a punch or not). Probably it would offer a lot of interesting paths of thinking and deserve more attention.

The questions of materiality becomes even more interesting if I would state like Hobbes (1651, p. 1) that life emerges through the setting of objects and their connections:

"For seeing life is but a motion of limbs, the beginning whereof is in some principal part within, why may we not say that all automata (engines that move themselves by springs and wheels as doth a watch) have an artificial life? For what is the heart, but a spring; and the nerves, but so many strings; and the joints, but so many wheels, giving motion to the whole body, such as was intended by the Artificer?"

Actually that remembers to Proyas' (2004) movie "I, Robot" – I am not writing about the book – where robots have a kind of ghost or soul, created by digital random elements "moving around" in the machines' inwards. In "I, Robot" random functions had to be added to translate Hobbes' thoughts into digitally, maybe because the story writer could not imagine life as a set of moves/instructions.

Excursus Openness and Inscriptions

Regarding all these discussions on different mode(l)s of understanding objects an important topic is the one of inscriptions into technological objects. MacKenzie (1996) points out that introductions of new technologies often caused resistance because they stood for rationalizing labor. But he also explains that technology can not be seen as a neutral instance which gets invented outside existence societies. I assume that technology and society stand in a kind of interplay redefining each other. Or even more attractive to me is the thought of Braudel (1985) to abolish the defining border between them: “So if one asks the question: is there such a thing as technology in itself, the answer is bound to be no.” (p. 431)

If the coherences defined as “technology” and “society” are intertwined that much, is it possible to design a technical object ‘open’ (for practices) and reconfigurable (for functions)? Reconfiguration bases on splitting a unit into several which then can be connected in different ways. This decision (which parts become new units) already borders the possible ‘openness’.
I agree with Akrich (1994) when she states that innovators always inscribe their model of possible use(r)s and practices – in her bigger words even “vision of (or prediction about) the world” (p. 208) – into an object. But I also think that it will not be ever possible to design all potential practices. That means that there must be an ‘openable’ aspect; maybe by disregarding all designed intentions. And at the same time: however reconfigurable an object is, it always predefines some aspects of its use which can not be bypassed by using it. To accept the concept of inscription also means to notice that they can be both conscious or unconscious due to the interweavement of technology and society, social contracts and design issues: not everything and everybody gets subjectified in total sameness and innovations can not be free from existing states/values. Thus it appears why neither a technology itself nor a society alone defines its asserted counterpart.
Noon (1998) tries to liberate technology from such concerns and gives the design into the hand of the users when he writes: “The public will always find its own use for technology, and usually in secret. [...] Nowhere in the manual did it even mention that such a thing could be done.” (p. 127)
More plausible Akrich (1994) binds humans and non-humans in the concept of actants:

> “technical objects participate in building heterogeneous networks that bring together actants of all types and sizes, whether human or nonhuman.” (p. 206) and

> “like a film script, technical objects define a framework of action together with the actors and the space in which they are supposed to act.” (p. 208)

I close with three quotes from a text (Law and Callon, 1997) about actor-network theory because it touches several of in this essay addressed aspects and opens paths for further thoughts – to widen the term object, to loose their boundaries, to recognize the usefulness of changing between different mode(l)s of understanding them:

> “The methodological lesson is this: that objects – for instance people and texts – are processes of transformation, compromise or negotiation.” (p. 3)

> “The argument is that subjects or objects don’t have fixed boundaries or attributes: aircraft, human beings, texts, social groups, or organizations: these are distributed through, a product of, and enact a range of materials and elements. But [...] sometimes, despite the endless flux and indeterminacy, networks of heterogeneous materials become more or less durable and achieve a degree of stability.” (p. 5)

> “Sometimes it is useful to talk of individual entities: to imagine that they are discrete objects in an environment. But it is equally appropriate to treat them as collective effects – as patterned networks. And to explore the character of that patterning – a patterning that transcends the division between the individual and the collective.” (p. 6)

Sources

- Akrich, M (1994), 'The De-Scription of Technical Objects' in Shaping Technology / Building Society, Cambridge MIT Press
- Baudrillard, J (1996), The System of Objects, London Verso
- Braudel, F (1985) The Structures of Everyday Life: Civilization and Capitalism, 15th-18th Century, Vol. 1, HarperCollins Publishers
- Deleuze, G and Guattari, F (1987) A Thousand Plateaus: Capitalism and Schizophrenia, University of Minnesota Press
- Fuller, M (2004) 'Digital Objects' in Read_Me, software art and cultures, edition 2004, Aarhus
- Hobbes, T (1651) Leviathan, The University of Oregon, http://darkwing.uoregon.edu/~rbear/hobbes/leviathan.html
- Law, J and Callon, M (1997) 'After the individual in society: lessons on collectivity from science, technology and society.' in Canadian Journal of Sociology
- MacKenzie, D (1996) Knowing machines: essays on technical change, Cambridge MIT Press
- Noon, J (1998) 'Chromosoft Mirrors (V.4.2)' in Pixel Juice, London Black Swan
- Proyas, A (2004) I, Robot, 20th Century Fox, USA
- Wikipedia (15/12/2004), http://en.wikipedia.org/wiki/Objecthood
- Zerzan, J (1988) 'Number: Its Origin and Evolution in' in Elements of refusal: essays, Left Bank Books

Figures

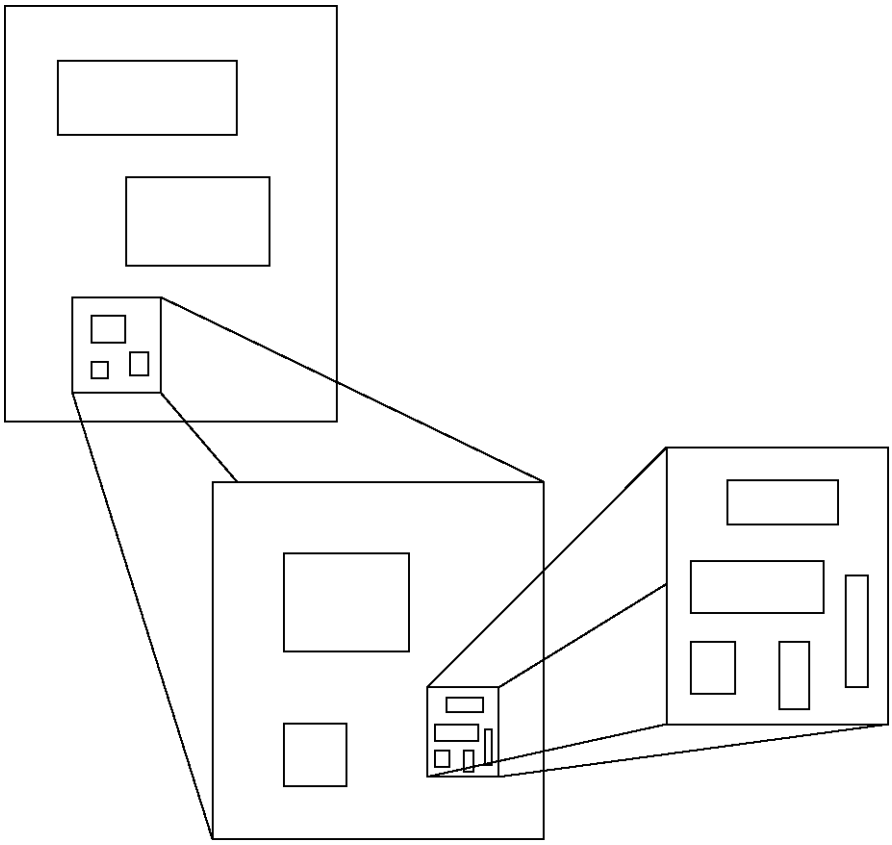

Fig. I: nested, never ending object structure.

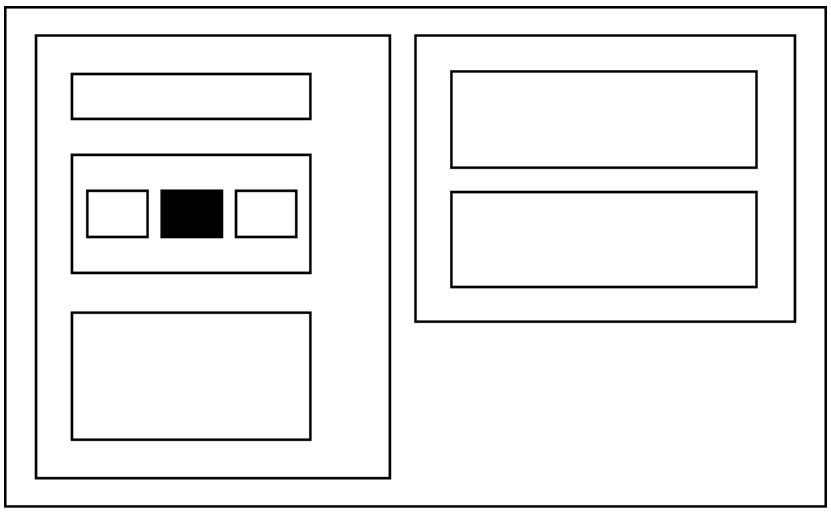

Fig. II: nested object structure with core.

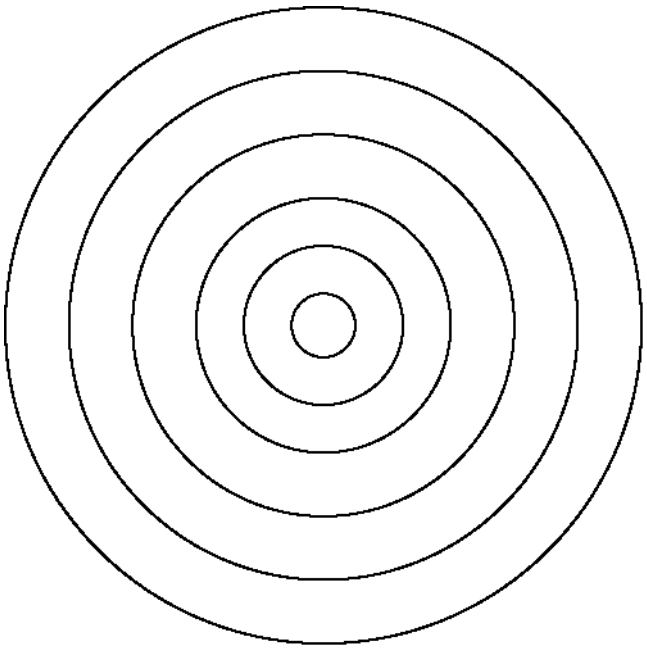

Fig III: circled layers.

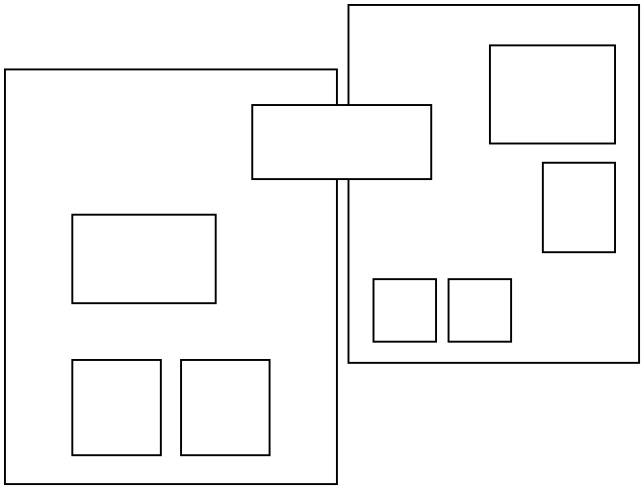

Fig. IV: nested objects with connecting sub-object.