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Accountability and design

Daniel Estevez* and **Michel Léglise** **

* École Nationale Supérieure d'Architecture de Toulouse, France. Email: daniel.estevez@toulouse.archi.fr
** École Nationale Supérieure d'Architecture de Toulouse, France. Email: michel.leglise@toulouse.archi.fr

Contemporary designers are moving away from closed systems to take advantage of flexible, versatile, accessible and open sets of arrangements, sometimes ill-suited and yet often adaptable tools. Because those tools provide designers with more freedom of action, they appear as the most efficient. The notion of set of arrangements, as opposed to that of system, questions the designers' own capacity of appropriating techniques. But their expertise lies less in their technical command of designing operations with the help of constraining tools, than in their "meta-technical" knowledge of designing production situations. Relying on research carried out over many years in the field of teaching within the Li2a laboratory, the text below is an attempt to explore some avenues on what can reasonably be expected from contemporary technological designing environments. The emphasis laid on digital technology in this field should definitely be questioned: should technical computer aided techniques be favoured or should it be used to stimulate the designers' capacity for invention? In a more general perspective, shouldn't environment-constrained design, in the broadest sense of this often overused expression, embrace a principle of accountability, optimal use of resources and smart practices?

Keywords: design, simplicity-complexity, designing operations, experiments

1 Active designing

It is time for architecture to take into account the life cycle process of buildings. From that perspective, the adaptability of designed objects becomes the core focus of the designers' intention. The more designers will contextually use, misuse, re-use and transform their own sets of arrangements, the more valuable the latter will be. Following into the steps of the South-African architect Carin Smuts [3], could it be said that "cultural sustainability" applies to the fields of conceptual architecture and design?

In a broader perspective, the capacity of the designing process to integrate use and misuse practices will certainly contribute to the designers' insecurity or bring them to question their own subjectivity.

Besides, it is to be noted that today, software is being massively used at each of the designing stages, whether in teaching or in production.

But a computer program may be viewed as a task-describing formal model [7]. From that perspective, CAO software conveys an implicit theory of design, or at least, of how it should be conducted.

"Our trade, being increasingly confronted to market demands, tends to resort mostly to what we consider as functional (knowing that a software which is not functional cannot be operated but forgetting that a functional software is not necessarily useful). We should learn to adapt to those implicit models [6].

In this new context we mean to explore, assisting the designing process should rather consist in helping designers to find the right approach to their tools. That would help them to regain the position they should have never left: that is, being at the core of the designing process and giving up close systems to the benefit of flexible, versatile, accessible and open sets of arrangements, even when ill-adapted at times. We have

already often studied the emergence of the notion of set of arrangements (a number of heterogeneous elements available both in time and space whenever needed by the designers) instead of a closed system (a number of exclusively technical and instrumental problem-solving closed areas, exactly what a CAO software does) [16]. The designers' expertise does not consist so much in a technical command of designing operations, assisted by a set of binding tools, as in some "meta-technical" knowledge of production and daily use situations. The architect Yona Friedman's studies on self-planning [5], have very accurately described the social consequences of that type of position which turns architects away from designing technicalities into consultants, organizers, resource persons providing expertise in ecology, construction, organization, history, in short, meta-designers.

All those avenues for research undoubtedly aim at promoting active approaches that could paradoxically be said to be off-centred (as defined by Piaget) [12]. They mean to integrate a notion that could be called some kind of collective "democratic expertise", which refers to ethical competences confronting designers to a number of contradictory strains. Those contradictions cover the relations between technical support and practical emancipation, between formalizing functions and improvising new uses and between abiding by protocols and transgressing them.

But isn't the very study of those contradictions the only way to provide other tools that would enable architects to fulfil their part as active and subjective designers?

2 Designers' postures

Many studies attempt to go beyond the notion of system in design or more generally in actions or human work. That is what has led to the emergence of concepts like DISTIC over the last few years (information and communication socio-technical set-ups) in which human action plays a central part over technical environments. Notions like misuse, reuse, transgressing technical usage patterns are being taken into account when studying praxis. The designing process, whether in architecture or in design, may well add to the complexity of the methodological issue when integrating the more subjective notion of designing posture.

In its anthropological meaning in the fields of science and technology, the word "posture" refers to "the actor involved in a network of relations solely governed by a principle of equivalence: the subscriber, the spectator, the tax-payer all refer to a posture that could apply to the network user. Each posture is related to a set of technical and social devices. Confronted to these functional assignments, the informal and unexpected uses of technical devices may acquire some significance. They focus designers back onto a fundamental dimension of their work, that is experimenting techniques as a means to make them their own. Besides, whenever a designer adopts a posture, it may become a subjective construction of his own instead of an outside pre-determined technique. It would thus be the designers' capacity to build their own adequate approach that would help them to face the insecurity of a given design situation and to implement unplanned solutions. That might be the meaning of Constantin Brancusi's well-known phrase when talking about the issue of artistic creation: "Doing things is not difficult. What is difficult is to set one's mind to be doing them ...". Being in the right state of mind consists simply in building up one's approach instead of applying one. In a way, it means being accountable for it.

Moving away from functional constraints arising from the underlying and implicit usage patterns laid by technical systems is now a priority task for designers. It also responds to a broader necessity arising from growing formal requirements (statutory, technological, legal...) imposed today by our contemporary social organization [6]. Ever since Ivan Illich's critical studies, it has become obvious that the prevalence of any formal institution within any given field may prove "counter-productive " and go against the own formal objectives of this field of activity ("beyond a certain threshold […] transport cripples traffic, compulsory schooling blocks access to knowledge") [9]. That could well apply to individuals in their own practices, including their professional field. At the individual level, architectural designers are not immune from such a threat of losing their skills brought about by systematic and fully automated work.

3 Design and "bricolage"

Consequently, what could be done to overcome the partitioning, role allocating and exclusion inferred by the technological equipment of our environment? What is at stake is our capacity to restore the social subject's ability to act: taking what has been partitioned and divided by systems back into common usage. To that purpose, some authors suggest to use the notion of "desecration ". We'd rather use some notions we feel are better-suited to our field: transgressing, unexpectedly incorporating and reconciling incongruous elements, in a nutshell some kind of "bricolage" in Lévi-Strauss' powerful sense of the word: ""Bricolage" characterizes the savage mind, which is not the savages' mind, nor that of archaic or primitive mankind, but the savage mind, as opposed to the mind that has been tamed or civilized so as to obtain adequate performance [11]. Should designing tools be also returned to architects and designers for their common usage? Or else, should some "transgressive uses" [4] of technical sets of arrangements be also encouraged? Or, on the contrary, should more elaborate sets of arrangements be devised so as to stimulate critical approaches? Or adopt a more radical and probably more utopist approach in order to free ourselves from the very sets of arrangements after getting rid of systems, and do without any kind of instrument? All those questions are actually related to a more global and definitely emancipating approach to design which, without rejecting any other solution, favours interpreting over formalizing, improvising over planning, critical acting over technological acting, discussing over prescribing.

4 Conclusion, design and simplicity

The new complex objects of research work in the field of design might well be "lived-in architecture ", "in-use objects ", "experienced towns ", "inhabited spaces". This implies taking into account lived-in space right from the very start of the space designing stage. Viewed from that perspective, the issue of aided design seems to be moving away from the production of assisting and control systems to stimulating activities relying on experience. It may then become possible to manipulate and study some sets of arrangements that would be capable of reintegrating into common usage those do it yourself practices that are most of the time being downgraded by those closed technical systems. In that case, what would these sets of arrangements be like? Shouldn't their prime function consist in stimulating informal and improvised practices? Designers' freedom of action should then be given absolute priority [8].

In this respect, the opposition between systems and sets of arrangements will toughen, in other words, our approach to the nature and role of digital technology could grow more radical: should we favour design technical assistance or the designers' innovative stimulation?

This leads to further questioning. How effective may these choices and practices be? Could their effectiveness spring from the dynamics between simplicity and complexity? How can simple tools in architectural design give birth to complexity? It might then be a matter of studying, devising and experimenting designing tools and methods that would contribute to simplify techniques and to take into account the informal dimension of architecture. Owing to their depth, "schemes in the doing" do stimulate the designers' imagination. In architectural design, complexity could well be mastered through the effective simplicity of practical action.

Acknowledgment

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Aims and scope

Today's design strongly seeks ways to change itself into a more competitive and innovative discipline taking advantage of the emerging advanced technologies as well as evolution of design research disciplines with their profound effects on emerging design theories, methods and techniques. A number of reform programmes have been initiated by national governments, research institutes, universities and design practices. Although the objectives of different reform programmes show many more differences than commonalities, they all agree that the adoption of advanced information, communication and knowledge technologies is a key enabler for achieving the long-term objectives of these programmes and thus providing the basis for a better, stronger and sustainable future for all design disciplines. The term sustainability - in its environmental usage - refers to the conservation of the natural environment and resources for future generations. The application of sustainability refers to approaches such as Green Design, Sustainable Architecture etc. The concept of sustainability in design has evolved over many years. In the early years, the focus was mainly on how to deal with the issue of increasingly scarce resources and on how to reduce the design impact on the natural environment. It is now recognized that "sustainable" or "green" approaches should take into account the so-called triple bottom line of economic viability, social responsibility and environmental impact. In other words: the sustainable solutions need to be socially equitable, economically viable and environmentally sound.

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