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Designing with people

IN THE ECONOMIC CONTEXT OF OUR CAPITALIST SOCIETIES, DESIGN IS A TOOL THAT IS USED TO INCREASE MARKET SHARE. NONETHELESS, THERE ARE FRACTURES AND CONTRADICTIONS IN ALL SYSTEMS AND DESIGNERS CAN WORK PRODUCTIVELY WITH THESE. ONE OF THE GREAT CHALLENGES IS TO OBTAIN PROFESSIONAL CONSISTENCY WITHOUT SACRIFICING ETHICAL PRINCIPLES.
SOME DESIGNERS HAVE ALREADY ACCEPTED THIS CHALLENGE AND SINCE THE MID-NINETIES, CONCERN ABOUT THE ENVIRONMENT AND USERS HAS CONTINUED TO GROW EXPONENTIALLY.
JOHN THACKARA MAKES REFERENCE TO THE APPEARANCE OF 'CONSCIOUS DESIGN', A WAY OF WORKING THAT IS BASED ON THE IDEA THAT ETHICS AND RESPONSIBILITY CAN INFORM DESIGN DECISIONS WITHOUT HAVING TO CONSTRAIN INNOVATION OR TECHNOLOGICAL DEVELOPMENT. SOME OF THE POSITIONS TAKEN BY DESIGN PROFESSIONALS AS REGARDS THEIR POSITIONING AS 'CONSCIOUS DESIGNERS' ARE DISCUSSED IN THIS ARTICLE.

"You should be the change you want to see in the world"
MAHATMA GANDHI

In this same issue of *ELISAVA TdD*, Miren Etxezarreta comments, within the context of our current capitalist societies, that "design is mainly used to try to increase market share". Effectively, we recognise this: design is an instrument of capital. However, what isn't an instrument of capital these days? If we stop to think about it, not even Medicine is an exception.

Of course, it seems like capitalism is enjoying enviable health and, in light of indexes –the globalisation of consumption, the spectacular growth of multinationals, etc.-, there gives no impression that there will be a collapse any time soon.

Meanwhile, those –within the design community- who see its defects more than its virtues do not want to stand there with their arms crossed. We feel that we should not let ourselves get swept away by pessimism, since it is often used as an excuse for not doing anything, to assume that things are what they are and have no remedy.

Nonetheless, there is something important: we know where we are standing and we also know that the system is not monolithic. There are cracks and contradictions within it and designers, like any other citizen –if they are aware- can work productively with it. The system establishes limits but extra-territoriality always arises in which other interests are articulated and from which one can attack by the flanks.

If we are down-to-earth, we must recognise that it is not easy to do so. We speak of a profession that is articulated around a customer's order, a customer who is paying so that you solve a problem for them that is usually related to their own economic interests. But, is it so impossible to reconcile their job from those of all other citizens? Is it so difficult to obtain earnings without destroying the environment or generating inequality? In reality, it shouldn't be in a society that prides itself on being in an information and knowledge era that has more means than at any other time in History to seek a more just world. The key is to change our way of looking at things.

In this sense, John Tackara has stated that the duty of designers of the future will be "to design ways of seeing what is not seen"[1] because in order to do things differently, we have to look at them differently.

However, this task is not an easy one. Even in a relatively idealistic climate like a Design school should be, professors who are teaching professional Ethics courses are constantly facing sceptical attitudes that are far from committed since often, when students ask them about the designer's responsibility, they argue deterministically that the world is dominated by the multinationals, that design is a slave to consumer trends and that its professionals, precisely due to this, can do little to change the situation since they are dependent on customers who in the end, pay the bills and the salaries. To this they add that only those who have reached a good position and have a name can allow themselves certain "ethical transgressions" and that, therefore, since they are neophyte designers, they cannot be expected to do what other more established designers are not willing to do.

Our students are right in a certain way. We live in an extremely competitive age in which values have been turned upside down and where it is more important to achieve notoriety and money than worry about the collective good. And in all honesty, in a society where success is everything, it does not seem that wise to turn down a design commission for a multinational only because some exploited children are used in its production process. As a student once told me: "if they pay well..." and, above all, if they let you prove how enormously creative you are, you can appear on the best who's who lists or win a first prize in a competition...

It is true that designers have little margin for ethics if the company is not ready to endorse this attitude in some way and if furthermore, they don not want to run the risks that are entailed to conquer it. As designer Herbert Kapitzi said[2]: "I know many colleagues who would love to work to improve the ecological conditions of our technological world, but they can not do it because they have to work for customers whose attitudes towards these problems are far from critical. They are forced to be opportunists because their existence as designers depends on providing a service. I know what I'm talking about. This is why I try to discuss it as coldly as possible, since I know how hard it is to get along with an exemplary attitude and remain firm about it"[3].

Maybe Kapitzi is right and the problem of the designer's responsibility must be approached from another angle, demanding customers to think about what the real needs are or, better still, what the real needs of users are "instead of it being the designer who has to show greater courage about his convictions"[4].

In any case, it must be acknowledged that, despite everything, in the design world in the last fifteen years the idea of the "dispassionate professional", that of the neutral and aseptic transmitter of the message between the customer/transmitter and the audience/receptor, has lost ground while roads have been opening up to other more committed attitudes. The 90's closed with the "First Things First Manifesto 2000" and what we have seen of this decade is proving that something has changed in

1. Thackara, J.(200): "Untitled" In: *Barcelona+*. Barcelona: Actar-ADG FAD-Barcelona City Council, s.p..
2. Kapitzi, H.W. (1993). "Ethics and commitment in design", published in *Visuelle Gestaltung* and appearing in Marsack, R.(ed.) (1997). Essays on Design 1. AGI'S Designers of Influence. Londres: Boothclib born Editios, p. 138

3. Kapitzi, H.W., op. cit., pp. 139-140.
4. Ibídem.

the panorama. At this time, one of the greatest challenges of modern designers is to obtain professional objectivity and consistency without renouncing their principles because before designers they are, above all, people and citizens.

Thus, and in light of the protagonism that certain concepts have (that I will speak about hereafter), while the position of designers about ethical matters at the beginning of 2000 could be termed as utopian, we are now in a time that is drawing closer to a reality –nothing to boast about, but consistently- in which we are also trying to reconcile the interests of the different parties involved in the design process: the client, the users and the designer.

A clear symptom that a transformation is taking place is that there are increasingly more schools offering courses related to sustainability and professional Ethics and increasingly more designers who are convinced that they must design for everyone without losing sight of the special characteristics of each individual.

Conscious design

In his book *Designing for the Real World*, Victor Papanek, -after devoting several tough sentences to both industrial and advertising design-, assures that "in the era of mass production, when everything must be planned and designed, design has become the most powerful tool with which mankind shapes their artefacts and environments (and by extension, society and themselves). This demands great social and moral responsibility on the part of the designer. It also demands greater comprehension from the people for whom designs are created and greater understanding of the design process by the public"[5].

I am not sure if Design is as powerful a tool as Papanek claims, but I do agree with him that designing involves both a social and moral responsibility, and a greater comprehension by design professionals, institutions and companies of what we as human beings really need.

Looking towards our current environment, John Tackara has stated that many of the problematic situations that are outlined are the result of poor design decisions: "The precarious situation of the planet, our only house, is a good example: 80% of the environmental impact of products, services and infrastructures that are around us are determined in the design phase. Design decisions shape the processes that are behind the products that we use, the materials and energy required to make them, the ways that we use them on a daily basis and what happens when we do not need them anymore"[6].

Only a decade ago, we believed that the new information and knowledge society would replace the industrial society and would resolve many of these situations, especially those with a negative influence on the environment. However, other problems have been added to the existing ones that are derived from the multiplication of technological means whose production processes are extremely intensive in terms of energy and materials. The issue would be slightly less difficult if electronic products were not also subject to such fleeting lifecycles. In theory, a computer for example, should be able to last in perfect condition for up to three decades, but the reality is that it dies out in a few short years.

Every product has a "hidden history" of energy consumption, waste, contamination and obsolescence that, possibly, if these factors were taken into account during its design and manufacturing could at least decrease the cycle if not prevent it completely.

A good number of designers have started to be aware of all of this. Therefore, since the middle of the 90's, associations and work groups have emerged that offer information about

5. Papanek, V. (1985). Design for the real World: Human Ecology and Social Change. Londres: Thames and Hudson. p. IX-X
6. Thackara, J.(2005) *In the bubble. Designing in a Complex World*, Cambridge, Massachussetts, MIT Press, 2005, p. 1.

environmental design and matters. Amongst these, some of the most active must be mentioned such as the Australian EcoDesign Foundation[7] and the Austrian EcoDesign Information Platform[8] with its "Factory of Tomorrow" programme.

As a response to this consciousness, a whole series of computer tools have also been developed, including ECO-it, software developed by the Dutch group PRé (Product Ecology Consultants)[9], at the request of the government of The Netherlands, aimed at industrial and packaging designers.

ECO-it allows a complex product to be modelled and, at the same time, to know its lifecycle in only a few minutes. It contains over 200 eco-indicators –taken from scientific reports- about the materials that are used most often such as metals, plastics, paper, cardboard, glass, etc., as well as information about transport, energy and waste treatment processes.

The software calculates the environmental load and shows which parts of the product are the "heaviest" (in the sense of requiring the greatest use of energy and producing a greater amount of waste). This information lets designers readdress the project and improve it, optimising its environmental impact.

Carrying out a long-lasting and sustainable design is one of the topics that mostly concerns modern-day designers, but there are other matters that also interest them.

To start with a good number of professionals are convinced that Design must not be done for the people but with the people and that the days of the professional star have already come and gone because the complexity of the situations that they must confront currently forces them to work in teams, to collaborate with other professionals, to be sensitive to context and not to lose sight of what the consequences are of any design act.

John Tackara refers to this way of designing as "conscious design", a method of working that rests on the idea that ethics and responsibility can inspire design decisions without res tricting the innovation and technological development that our society needs to operate.

This "conscious design", also following Tackara[10], involves determining to:

· Think about the consequences of design actions before implementing them, paying special attention to the natural, industrial and cultural systems that are found in the context where these actions take place.
· Consider what materials and energy are present in the systems that we design.
· Prioritise human beings and not treat people as a simple "factor" of something bigger.
· Provide value to people and not people to the system (like in the majority of cases of current marketing).
· Handle the "content" as something that we do, not something that we sell.
· Work with the place, the time and the cultural difference as positive values, not as obstacles.
· Centre on services and not on things and abstain from flooding the world with artefacts that lack meaning.

User-centred design

From my point of view, this "conscious design" has many different angles, but the central pillar of all of them is the user. Due to this, today people are speaking of user-centred design, something that can be defined as design by and for the user.

However, this definition may be too generic and somewhat confusing to the degree that it includes perspectives that are at times far from the most socially committed circles. Indeed, marketing research is also approached as centred on users, in

7. It has changed its name and is now called the Society for Responsible Design. Please see
   http://www.green.net.au/srd/
8. http://www.ecodesign.at/
9. See http://www.pre.nl/eco-it/eco-it.htm#why

10. Tackara, J., op. cit., pp. 7-8.
11. http://www.system-concepts.com

this case considering almost exclusively the user as consumer. Often, user-centred design is confused with design centred on usage. David Travis from System-Concepts[11] defines the first as design in which designers understand the usage context, which involves an in-depth knowledge of the user, the environment in which they develop their work and the user tasks as regards the artefact or product to design.

The second usage centred design tends to be related to the idea that the designer only needs to concentrate on the tasks of the user.

In this sense, Travis indicates that in practice, there are few differences between both approaches, understanding the term "usage centred" more as a marketing matter.

On his part, Jan Gulliksen comments that usage-centred design does not involve the designer in the design process, while user-centred design represents an active and direct presence of the user in the development process for this design. From his viewpoint, user-centred design will end up being the same as what North Americans have termed "participative design". According to Gulliksen[12], what characterises user-centred design is:

· The active participation of users
· A distribution of functions between users and the system.
· Iteration of the design solutions.
· Multidisciplinary teams when tackling the project.

Similarly to Gulliksen, Jeffrey Rubin in his book *Handbook of Usability Testing*[13], describes the three principles of this philosophy:

· A focus, from the beginning of the project, oriented towards users and the tasks they must carry out with the product,

collecting data in a structured and systematic way, as objectively as possible.
· Iterative design, via the cyclical repetition of the design phases, such as modification of the parameters and product usability tests, from the very beginning, performing cycles until the result is completely satisfactory.
· Empirical measurement of the real situation, placing emphasis on carrying out tests about the ease of use from the beginning of the design and based on early product prototypes.

For Heimrich Kanis[14] from the University of Delft, user-centred design refers to usage modes and possibilities. In this way, two sources of basic data must be turned to in all work: those proceeding from ergonomics with studies about anthropometry, physiological functions, etc., and the activities of individuals in product usage as an essential determinant for its functionality. For Kanis, what is truly important is the manner in which users interact with products and, in particular, with the prototype during the different experiments that take place during the development process.

The difference between user-centred design and participative design is found in that the first considers users only at the beginning and end of the design process whereas, in the second case, the user participates throughout the entire development process. Now, this difference becomes clear only in the North American setting since in Europe, both are used with the same meaning.

According to Woodson[15], user-centred design is the practice of designing products so that users can use them with a minimum of stress and a maximum level of efficiency.

In any case, it is more than a set of techniques and it is an entire philosophy that involves designers and users, but also human sciences experts like sociologists, anthropologists and

12. See Jan Gulliksen, Bringing in the Social Perspective: User Centred Design, Stockholm, CID, Centre for User Oriented IT Design Nada, 2001. This report can be requested at http://www.nada.kth.se/cid/. Likewise, for further consultation, see Gulliksen, J., Lantz, A., Boivie, I.: User Centered Design in Practice - Problems and Possibilities, CID, http://www.nada.kth.se/cid/pdf/cid_40.pdf
13. Rubin, J. (2001). Handbook of usability testing. Indiniapolis, Wiley.

14. "Design Relevance of usage centred studies at odds with their scientific status?" in HANSON, M.A. (eds.) (1998): "Proceedings of the Annual Conference of the Ergonomics Society". Taylor & Francis, London (UK). p. 577-580.
15. Woodson, W. E (1992(.: Human Factors Design Handbook: Information and Guidelines for the Design of Systems, Facilities, Equipment, and Products for Human Use, New York, McGrawHill.

psychologists, as well as those people who, within the company, are in charge of management. This vision, therefore, entails a significant change in the way designers work, and thus in their skills, and it is modifying in many cases the way they are educated in schools and universities, as a multidisciplinary perspective is being demanded.

Up until now this time, we have to acknowledge that the notion of researching a design context or space does not turn out to be simple for designers given that they are used to problems being presented to them more or less well defined and with a more or less direct solution. For example, the majority of customers come with a concrete job already for the designer to give shape to. Working from the perspective of user-centred design entails something that is very different, since it involves greater involvement in the project and therefore, a greater risk to the degree in which they are obligated to control a broad number of factors and, many times, change the perspective depending on the results obtained during research.

Research where it is not always easy to obtain data objectively, but where prejudices about what the product must keep oneself from seeing what users really need and where it is complicated to establish a correlation between the product's design parameters and subjective user expressions, which are manifested vaguely in phrases like "it isn't comfortable", "I don't like it", etc.

Due to this, we cannot approach user-centred design ingenuously, simply by asking users what they think. There must be more in-depth research that requires, as mentioned earlier, the participation of experts.

User-centred design also requires a change of mentality as many designers have prejudices about users' abilities to generate design ideas and, vice-versa, many users feel that designers are only concerned about aesthetic matters and creating pretty products that are impossible to use.

On the other hand, relationships with researchers in social sciences are not always easy because many of them believe that the majority of aspects related to use are more related to engineering than to design to which they concede a merely aesthetic place. In all cases, the role of these researchers is important, especially in the initial project phases since they can help designers to define the project.

Despite the difficulties, I believe that user-centred design is, as I have mentioned, a philosophy and a challenge that modern-day professionals must compulsorily assume since, in the long-term, it will let them increase their skills and enrich their knowledge. I also think that it is a good road to place design on the social, economic and cultural map with the importance that it deserves.

Design for all

Not far from user-centred design is what is known as "design for everyone"[16]. Like the former, the latter is more than a simple set of techniques and is a working philosophy. It is a process of design of products and environments that are user-friendly, usable by the greatest number of people, encompassing the largest number of situations possible –inside which they can be marketed-, without the need to adapt them or redesign them in a special way. And, of course, user participation is essential.

In accordance with the Center for Universal Design[17], there are seven principles of universal design or design for everyone that are applicable to Architecture, the creation of products, graphic design, web design and computers in general. These are:

1. Comparable usage. The design is useful and sellable to people with different capacities. Due to this:

· The same usage methods must be provided for all users (identical or equivalent).

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16. In the United States, it is called "Universal Design' or 'Inclusive Design".

17. http://www.design.ncsu.edu/cud/

· It must avoid segmenting or stigmatising any user.

· Privacy, guarantees and security must be guaranteed for everyone.

· It must be attractive to all users.

2. Flexible use. the design accommodates a wide range of preferences and individual skills. It must:

· Offer possibilities of selecting the usage methods.

· Be able to be accessed and used with either hand.

· Provide the user with exactitude and precision.

· Adapt to the user's pace.

3. Simple and intuitive. it must be easily understood, attending to the experience, knowledge, linguistic skills and level of concentration of the user. Therefore:

· Unnecessary complexities must be eliminated.

· It must be consistent with the user's expectations and intuition.

· It must accommodate a wide range of literary and linguistic abilities.

· It must dispense information that is consistent with its importance.

· Efficient notices must be provided as well as response methods during the task and its completion.

4. Perceptible information. Design has to effectively communicate the information necessary for users, responding to their sensorial capacities and environmental conditions. Thus, the following are necessary:

· Use different ways to redundantly present the essential information.

· Provide sufficient contrast between the essential information and its surroundings.

· Increase the legibility of essential information.

· Differentiate elements in ways that can be described.

· Provide compatibility with several techniques and devices used by people with sensorial limitations.

5. Error tolerance. Design must minimise risks and adverse consequences of involuntary or accidental actions. For this, it must:

· Have elements available to minimise risks and errors. Eliminate dangerous elements and make the frequently used items more accessible.

· Provide warnings about danger and errors.

· Have safe interruption mechanisms.

· Discourage inconsistent actions in tasks that require supervision.

6. Require little physical effort. The design must assure that it can be used effectively and comfortably and with a minimum of fatigue. The object must let the user keep a neutral body position:

· Use efforts reasonably to operate it.

· Minimise repetitive actions

· Minimise ongoing physical effort

7) Size and space for access and use: The design must have a size and space that is suitable for access, scope, handling and usage, heeding the body size, posture and mobility of users. Therefore:

· There must be a clear line of vision towards the important elements, both for standing and seated users.

· The scope of any component must be comfortable for any user either sitting or standing up.

· It must accommodate variations in hand sizes or grips.

· It must provide the space necessary for technical assistance or personal assistance.

The real application of all these principles also involves a challenge for any designer because they must take many

factors into account, without neglecting the balance between functionality and aesthetics.

As stated on the web page of the Design for All Foundation[18], designing for everyone can be advantageous for companies, amongst other reasons because it increases the number of users and consumers of the products and services and, consequently, increases sales. Likewise, competitiveness grows and the prestige of the company upon showing that, in addition to economic objectives, it also has social goals. For the designer, it can also mean an ongoing updating of his knowledge, a way of consolidating their ethical posture.

As can be seen from all these different approaches, it is not so impossible to reconcile the different interests that come together within the design process.

In order to finish this article, I would like to quote Professor Richard Buchanan, when he stated: "The task is no longer to design for a universal audience or for national groups or for market segments or even for the ideological abstraction known as "the consume". Despite mass production continuing to exist in many societies, the task is to design for the individuals located in the immediate context. Our products must support them in their effort to become an active participant in culture, seeking coherence and significant connections at a local level. Products must be personal roads on which, otherwise, ecology is confused with culture".[19]

This quote by Buchanan perfectly summarises what modern-day designers if they want can do: looking at the setting not as something amorphous and considering consumers not as an anonymous and anodyne group, but as a group of individuals that are trying to find a meaning for what surrounds them and that need to find their own personal balance. In this sense, Design can help more than it seems, perhaps without great pretensions, but from the awareness that we all belong to the world which we inhabit.

18. http://www.designforall.org
19. Quoted by Press, M., Cooper, R. in The Role of Design and Designers in the Twenty-First Century, Burlington, Ashgate Publishing Company, 2003.