

DESIGN AND TECHNOLOGY: IS THERE SPACE FOR CRITICAL SENSE?

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INTRODUCTION: THE RELATION BETWEEN DESIGN, TECHNOLOGY AND SOCIETY

One of the most fascinating issues in the evolution of design in recent years is the amount and depth of the designing activity and its incorporation in the mechanisms of social configuration and systemic integration. Apparently, in the near future everything that refers to the life of people will be designed by competent technicians working for the different business fields: urbanism, decoration, nutrition, tourism, sports..., «educational», «associative», «religious»... The future of designers is guaranteed as long as they become good receptors and interpreters of the needs of the users and of the conditions imposed by the manufacturers and organisms that offer the services; in other words: as long as they are good programmers of forms and processes, defined according to the conveniences of those who establish the limits of the systems within which design is inserted. Will the alienated submission of the designer be inevitable? How much space will be left for the singularity, creativity and freedom of the artist and of each and every individual?

There are many authors who refer to the fundamental change that has come about in the field of design: the drawing-design, the system programming-design (from the desing of the piece to the design of the conditions of possibility of certain forms within predefined macrosystems), a giant step accompanied by the technological transformation that is characteristic of our century. Nigel Cross, for example, after compiling the ideas put forth by J. Christopher Jones and Donald Schon, considers the possibility of design evolving from the classic «design-by-drawing» (or by scale models of a certain product and its components) developed within industrial society, to a postindustrial society type of design, the object of which would not be finished products but, rather, systems and processes that allow the diversified and varied supply of one or many types of products:

This would mean, for example, that a commercial enterprise would have to admit that it must diversify itself, go from, say, producing cars to the production of transportation systems, or from producing houses to the production of dwelling or housing systems. The consequences for the designer are obvious: he will be asked to create innovations in the systems instead of being limited to modifying the product.

Thus, it seems that the link between design, technology and society is getting stronger every day. Some design theoreticians are so conscious of this that they end up doing social philosophy. For this reason, I believe it can be useful to reflect on the subjects of design and progress, economic development and consumer's society, massification and the industry of culture, technological innovation and new forms of life.

DESIGN AND PROGRESS

In the literature on design, as well as that referred to anthropological issues, it is a recognized fact that

the making of ever better forms and the more and more perfect production of the objects and tools that are necessary for human life constitutes a key element in the evolution of man.

Think of the variety of these tools: cooking pots and utensils, hunting instruments and ploughing utensils necessary for cultivating the land (especially, the simple and marvellous artifact known as the plough); the different media for transport that use animal strength, or the possibilities of fluvial and maritime media or other resources; the tools used in every different craft, in dress and in living quarters, defensive and offensive arms, any object of cult, elements for ornamentation or ostentation... they have all required a creating effort and have undergone transformations in the history of their existence. The search for new raw material and the improvement of the productive techniques have unstoppably multiplied the number of objects available to the public. These changes have tried to bring about an ever better adjustment between the *form* (and the materials) and the *function*, an improved adjustment between the *form* and its *context*.

During what is known as the *preindustrial culture*, these transformations have come about slowly and gradually, with a lot of effort and by means of an «unconscious» process (C. Alexander) or what could be qualified as an uncontrolled process that occurs at random. The artisan procedures have evolved during the centuries and have produced instrumental and organizational forms of growing complexity. If the concept of design is delimited by the idea of the elaboration of useful products for man by means of a form and a previously projected and systematized technique, («rationalization»), then we can say that the act of «designing» is to project forms and processes of execution with the aid of drawing and the organization of the different operations that are necessary for producing every particular product. In other words, from this point of view, design is already present in the artisan productions of the preindustrial cultures. We must add the requirement of its dependence and application to processes of *industrial production* in order to adequately complete the notion of design to the types of procedures that are characteristic of the modern era, to the accelerated changing process of Western society that has taken place through the industrialization and technification of the past few centuries.

The continuity in time of a «generic» designing activity and this sudden, almost rupturing break, that entails the birth of design as an activity which is immersed in the industrialization process of the modern era, become important components for understanding the greatness and misery of the present day situation of the designing activity and its future.

To speak of design inevitably takes us to refer to forms, materials and techniques, in other words, the elements that bring about the material transformation of societies with the use of natural resources. Thanks to human work, these elements transform the natural environment into a world within reach, they change the physical space into a space made for man. Design is very much linked to the types of changes that we call progress.

If we consider the relation design-progress, we will understand that many of the precisions and critical considerations that have been made about progress must also be applied to design.

The myth of «natural» and lineal progress in history has long been lost; progress does not come about by a mere accumulation or superposition of facts; nothing guarantees that the newer developments or productions are «superior» to the previous ones. The forms that attempt to innovate are not always better than traditional ones; the innovation of materials and forms made possible by design, is not always favourable for people an does not always adjust to its supposed functionality; it does not always do away with «inferior», much less obsolete, objects and procedures. Just like «progress», design works within a dynamics of transformations moved by diverse impulses (that are sometimes unconscious but, often, very specifically interested) that do not stop before the distortion of reality and the mortgage of the future possibilities. Nevertheless, can we say that «in spite of everything», there is an advance by means of ruptures and unexpected turns, produced by the profound interdependence between all these events?

The history of modern design itself illustrates this dialectics between tradition, rupturist forms and the meaning or sense that creators confer to their task.

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THE BATTLE OF DESIGNERS TO CREATE AN AESTHETIC SURROUNDING

The history of modern design introduces us into a restless and rich atmosphere of diverse initiatives and disputes, in the sense that we have just mentioned. The following is the synthesis of a paradigmatic contrast.

As is well known, W. Morris was simultaneously a theoretic creator and a practical producer of design in a modern sense, proven by his active participation in the foundation and development of a company «of artists and artisans», and its printing house, the Kelmscott Press. Morris, who was experiencing the impact of British industrial transformation, considered that a true social and environmental degradation was taking place that required a real social and aesthetic revolution.

Fed up with the social consequences derived from liberalism, he went from radicalism to socialism in a way that could be qualified as revolutionary and aestheticist. His circle of friends included people such as Belfort Bax, Eleanor Marx (Karl Marx's favourite daughter), the austrian socialist Andreas Scheu, Helen Taylor (stepdaughter of Stuart Mill), W. B. Yeats, etc.

The same reflections that led him to have a critical political attitude, gave place to this rebuke of certain forms of progress that degrade the conditions of human life (machinism, competitiveness, the architectural use of iron and so many other things, are considered destructive elements by Morris). This leads him to adopt an aesthetic position that is as anachronistic as it is critical of the context in which he lives: he believes in the necessity of integrating the arts and crafts in a cooperative and communitary sense, similar to the one characteristic of the Medieval era (like Ruskin, he saw the Middle Ages as a time during which art was «social, organic and trustingly progressive», identifying «organic» with «functional»). Being contrary to the divisions between artists and artisans, «pure» arts and applied arts, he establishes utility and functionality (in other words, human needs) as the basis for defining what needs to be produced and made with beauty.

In his utopia *News from Nowhere* he explains his line of thought:

the products we make are produced because we need them; man produces things for this neighbour to use as if they were for himself, not for a vague market of which he knows nothing and over which he has no control...

Nothing can be made, unless it is to be truly used; thus, no product of inferior quality is made. Also, we have already found what we need and, since we don't make more than is necessary and there is no need to make a large amount of objects with no use, we have enough time and resources to consider work a pleasure. Any task that is bothersome to carry out manually can be undertaken by machines, any work that is pleasurable to do manually, is not done by machines.

The word «art» has disappeared from the English language since it becomes an integral part of life and everyday work. Factories are organized as cooperatives, and new sources of power make the total political and economic decentralization possible.

Team work, as understood and practised by Morris, can be seen in his activity as a designer of stained glass windows, for example. He would ask Burne-Jones, whom he considered a great artist, for the drawings, and he would adapt them to the artisan techniques of making stained glass windows. As Mackail says,

Thus, two essential aspects will be saved: the design had greater imaginative value since it did away with the limiting influence of the artisan or this mere lack of imagination, and the correct technical execution of the design was free of the imaginative artist's amateurism.

Morris thus represents a conservative position, the recuperation of tradition, not because he is opposed to progress but rather, quite on the contrary, because he wants a radical transformation of life conditions that will allow everybody to live beauty and will put an end to the use of art as a privilege. As is well known he had an enormous influence, as

was proved by the *Arts and Crafts* exhibits and the posterior development of certain schools of style.

But this position was also strongly criticized by other authors, in spite of the fact that many of them pursued similar ideals. They criticize his lack of objectivity, a fact which is obvious in the affirmation of the general character of artistic capacity, his romanticism and subjectivism, his incoherencies... His rebuke to the use of iron for construction (he hated the Eiffel Tower) presents him, in the eyes of many, as an idealist who does not wish to face the new possibilities offered by technology, incapable of imagining the aesthetics of a new world, a world that permanently exemplifies the diversity of resources.

In some basic aspects, the Bauhaus represents the opposite, the antithesis of Morris's aesthetics: the experimentation with new materials, the «technical and scientific» investigation in the field of colours, the rupture with traditional forms... are facts that oppose one and the other, reflected in apparently insignificant things such as the following:

One of the crafts that the Bauhaus, as well as Morris, wished to reform was typography. But, while the types produced by Morris were characteristically based on the design of simplified and modernized Gothic letters, those of the Bauhaus characteristically attempted to be modern in a more revolutionary way, rebuking any historical reminiscence and preferring a simplicity without relief, which was considered adequate for an industrial era.

The conflictive history of the Bauhaus shows the permanent dissensions provoked by the different criteria on the relationship between art, design, technique and society.

In our society, design has a double access route: 1) by means of its application to objects and propaganda; 2) by means of its theoretic objectivation as a cultural product. As we have seen, it can be innovating in both senses and sometimes includes the revolutionary use of new materials. All in all, it becomes a relevant contribution to the transformation of uses and customs, as is made obvious in the case of certain types of housing facilities, different forms of ordering the territory, designing furniture and electrical household instruments, etc. But to what extent does the designer identify with the artist; to what extent can he be a creator in the sense of acting freely according to his own singularity and aesthetic criteria? Is he more than just an instrument of manipulation, of the market, of the manufacturers?

THE DEPENDENCE OF DESIGN ON ECONOMIC DEVELOPMENT AND CONSUMERS CULTURE

The generalization and diversification of the applications of design constitute a phenomenon which is characteristic of a wider process that includes the demographic explosion within urban spaces, the monetary availability of the individuals that form this human mass, and the creation of social standards that introduce aesthetics as a relevant factor in the quality of life.

I would like to underline that if these phenomena, which are typical of our century, are considered abstractly they do not present an especially negative aspect. They could have been produced within different historical frameworks and could have constituted worlds very different from ours. But we must realize that they have been specified in the social forms of a consumer's economy and «culture» of the masses.

The mass, which is trained in the voracious consumption of all kinds of objects that the market presents as being necessary, also absorbs culture as just another item on sale. Culture becomes a consumer's product and many people do not realize that there is something antithetic between these two things: both consumption and culture produce satisfaction, but the normal attitude of the consumer is inscribed within the idea of commodity, mimetism and evanescence, whilst the traditional concept of culture implies sougning, cultivation, effort, persistence, putting the entire personality at play with its singularity and universality, in order to experiment, to feel oneself.

THE MASSIFICATION AND MECHANICAL REPRODUCTION OF ART

Many authors have criticized the process of manipulated massification that constitutes the society of our time and, within it, the attempt of turning culture (and especially art) into just another merchandise. I will only point out here some of the warnings that W. Benjamin put forth in his work *The work of art in the era of mechanical reproduction* (1936) and in «The author as a producer», as well as certain texts by T. W. Adorno and M. Horkheimer.

These latter authors put forth a radical criticism of the industry of culture as an element of mystification and mass alienation, a key piece in the process of deindividualization (in other words, loss of personal identity) and the reversing of the dynamics between what is universal and what is particular (everything that is universal about life and everything that is characterized by its singularity), a pseudo cultural instrument that upsets the renewing force of culture (in its wider sense).

Horkheimer and Adorno believe that mass society, turned into consumer's society, has developed absolutely negative mechanisms that imply: the annihilation of differences, the dissolution of any value other than that of the market, continually reinforced by the artificial creation (by means of propaganda) of imperious consumer necessities (the fetishism of «having», of possessing objects). Within this society there is a total domination of standards, of production in series, of repetition, homogenization, the prefabricated anticipation of conceptual or aesthetic orders that establish the state of facts and possible personal experiences. The individuals of the mass are converted into «men as means», with no other attributes beyond those that are necessary for being disciplined workers and good consumers of a production that is largely useless.

The apparent freedom stems from the possibility of being able to choose amongst the variety of articles in large department stores and other services companies; thanks to pseudoculture, the capacity of thinking and experimenting, beginning with oneself, has been previously and subterraneously disarmed, programmed in order to accommodate itself to the inhibition, *l'amusement* and distraction that are typical of a person perched on the unconscious of the general empty satisfaction.

Within this diagnosis, the press, radio, television and movies play a fundamental role: their power for influencing mentalities has no limits and even the supposed freedom of choice between different stations is false because, deep down, the programmes they offer do not differ substantially, since they reproduce the same clichés.

Benjamin underlines that the contemporary techniques of mechanical reproduction of works of art situate us in a universe of objects that are impersonal, ahistorical, with a total lack of frames of reference that would allow for personal singularization, and the necessary distance that would permit the experience of discovering «the other» and the existence of the «aura». The proximity of that which is always available and at hand, entails its indifferentiated assimilation, its instrumentalization, its incorporation to the order of what is already known and alike; where lies the fascination of that which is disturbing, the interrogation, the anticipation of the unknown, the cultural distancing that had been characteristic of art? Must we merely accept and note that this change has taken place?

According to Benjamin, the author must reflect on his role as a «producer», he must objectivize the production conditions of his time and adopt a praxis of «functional transformation» (a Brechtian concept) in order to avoid the productive apparatus from directing and controlling his activity; control and direction must be in the hands of the author and not vice versa. His model is Brecht:

Thus, the characteristic of production as a model is decisive; in the first place, it instructs other producers in reference to production and, secondly, it is capable of putting a better productive apparatus at their disposition. And this apparatus will be better insofar as it introduces the maximum number of consumers into production, in other words, if it can convert readers or spectators into collaborators. We already have

a model of this type, to which I have only alluded. I am referring to the epic theatre of Brecht.

It confronts the dramatic laboratory with the total work of art. In a new way, it reverts to the great old source of theatre: the exposure of that which is present. In the centre of his effort is man. The man of today; therefore a reduced man, frozen in a cold environment. But since he is the only one we have, we wish to become acquainted with him. He is submitted to test, to judgements. The result is that what occurs cannot be modified in its culminating points, it cannot be modified by means of its virtue or decision but only in its strictly usual development by means of reason and practice.

Now more than ever, art is necessary in order to reconstruct the plenitude of this ruptured, «frozen and reduced» man. Benjamin, as well as Adorno and Horkheimer, subscribe Valéry's expression in reference to the essence of art:

What I refer to as «great art» is, in one word, the art that despotically claims for itself all the capacities of a man, the works of whom are of a type that all the capacities of another man must be called upon, felt, his whole being must be used, in order to understand them.

This takes us to the opposite extreme of what characterizes prefabricated culture, art understood as an article for consumption.

AESTHETIC EXPERIENCE VERSUS DISSOLUTION OF THE INDIVIDUAL

The aesthetic experience that leads to this «great art» is presented today as being radically contrary to the homogenizing tendency of the aforementioned contemporary world, that which tends towards the dissolution of the individual and any attempt of cultivating singularity. Because «aesthetic experience» means the coming together of singularities in that which is universal: a singular life experience through the «intuitive harnessing» of forms that have a well-rooted expressive force and universal scope, and that have been forged in another singular experience; the formal and symbolic elements, that are of a universal nature, form a network that permits the expressive interchange between individuals.

Art thus understood, is difficult to identify with the normal practice of design and is very far from anything that can be said about industrial design. A few things must, nevertheless, be pointed out: a) there is no such thing as «great art» without a space for freedom and communication that will allow us to acquire knowledge about works of art and their confrontation with everyday life; b) the degradation of everyday life in our days, produced by mass manipulation, is a responsibility of all the social agents that take part in its extinction, the battle against this degradation must necessarily include designers; c) the designer can be more or less artistic, have more or less imagination, but we must demand that he have adequate human and technical training in order to carry out this task; this implies having critical sense, capacity for differentiation, interchange, criteria, especially *aesthetic criteria*; and finally, d) an aesthetic criteria includes a conception of people and society.

AESTHETICS AND FORMS OF LIFE: FORMS OF LIFE OR LIFE FORMS?

Ancient schools of thought were already conscious that any reality needs to be specified in certain forms and, therefore, that there is no being without form. Nevertheless, in the history of human thought, the issue has been treated in many different ways; I will point out two of these: 1) the form as a wrapping or external figure of reality (sometimes it even has the negative connotation of being a veil that hides what is behind it, as if it were a degraded or faulty manifestation of what is alienated within it); 2) the form as an expression of a reality internally linked to it; this means that the figure and what is shaped are dynamic

and interdependent elements of the same process. The many implications of this latter idea, in reference to the human world, have not been able to be explored in depth until the present century, with the development of studies on language, symbolic forms and social models.

Stemming from this idea we can consider human life as a complex in which forms condition and shape the possibilities of existence, a process of transformations and the unfolding of forms, characterized by diversity and communitary links. Every person expresses or defines his existence according to certain forms of life, customs or behaviour patterns that he finds in his surroundings or that are presented to him as models. These forms do not include all the possibilities of existence, they are only partial specifications, but they make up a set of relations that affect the being of the individual.

The fathers of modern design wished to transform society and individuals with the aid of a general change in the forms of human surroundings. They weren't wrong about the strength and importance of this transformation. But, precisely due to this, their «revolution of the forms» has not taken place.

In the Western, richer societies, a concept of «quality of life» has been created, and we think we can satisfy it quantitatively; but it is becoming more and more obvious that there is no quality of life without a profound impregnation of the aesthetic in the social body and the products it generates. The attempt to turn aesthetics into a set of forms that «make-up» (in a cosmetic sense) and beautify misery (which must be understood in its wider sense) contributes to the general degradation. Sometimes it seems like an attempt to adapt or mould citizens to an empty life, surrounded by shiny forms, to an atmosphere of general consensus, of null wills, to a universal space in which there is no room for the particular: if this were possible, it would mean the disappearance of humanity as such, since we would have achieved a reduction of the structure of human reality to only one element, we would have «folded» pluridimensionality into unidimensionality.

Design can and must contribute to the improvement of the forms of life. But this objective will not be reached in an «automatic» way by the mere routine application of design to different products or processes. Design can be «responsible» or not, it can be participative or not, it can solve real necessities or act as an instrument for the manipulation of the users, etc.; in other words: it can be on the side of consumerist degradation or contribute elements against it.

We must have criteria by which to guide ourselves in this choice and this requires the development of the critical and creative senses. We must make way for it if we do not want to self-immolate in a general degradation.

DESIGN AS THE CREATION AND ORGANIZATION OF SYSTEMS

Given this situation, the announcement that in the near future the designer will become the organizer of systems may sound scary, but we must also see the possibilities that will give way to new ways of working and of social participation.

The position of N. Cross is optimistic because, amongst other things, he believes in the decisive contribution of modern design to the solution of social and personal problems: there is «responsible design» with important representatives such as Papanek, who is worried about people with physical impairments, about the massive needs of the underdeveloped countries. Papanek states that

nowadays, globally, we need more oil lamps and lamps of other types than before the discovery of electricity, because at present there are more people alive who don't have electricity than the total population of the entire world in the days of Thomas Edison,

etcetera. Once again, in the field of design as in others, it becomes evident that very diverse orientations and applications of activity are produced, the results of which deserve differentiated considerations, for which reason global disqualifications or apologies do not fit in well with reality.

Cross unites the idea of *design of systems* with that of *participatory design*. Through the first, a variety or scope of possibilities could be open to the taste or necessities of every individual, which would be made real by the second. But the latter can be understood in a more radical sense which does not contradict the former: the designer can put himself at the service of the users and be an interlocutor in the decisions about the establishment of systems.

This argument touches two central aspects of the problem: 1) the designer-user relationship, and 2) the role of the designer in the process of creating the design. It also manifests the need for a social organization that is really participative.