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Issues of form

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ABSTRACT

In a scene radically varied by the effects of the pandemic, a reflection opens on which guidelines and methods should turn today educational research, an area no less spared, which also manifests the fragility of a system made of static habits. The knowledge of how design originates from the ability to adapt to the changes of a society in continuous evolution, in which modernity has however unquestionably marked the loss of forms built over the centuries, implementing a radical break with the past.
Investigating the variations of teaching through the comparison between historical models and new tools and processes of the digital age, the paper questions the concept of form, proper to the design project but also immaterial tool of culture, a means of coexistence and a place of mutual exchange, to define the changeability we are witnessing in the transition from classrooms to home desks. In fact, it is increasingly necessary to re-establish relations between the parties involved, to restore a communicative capacity that knows how to overcome difficulties and fears in the awareness that, as in the most famous physical law, nothing is created or destroyed, but it only changes in its form.

Keywords: training, design, form, relations.

INTRODUCTION

The year 2020, which should have perhaps represented more of a significant milestone for the contemporary, has quickly transformed into the maximum expression of that aspect of changeability that has always characterized the planet in which we live, not only from the physical point of view, but especially in the aspects of social, economic and cultural life.
The system of habits has collapsed like a house of cards, leaving man from one day to another in a dimension of suspension, in an environment that is the same but also radically different, forced to redesign his own bodily and spatial boundaries. Within a unit, which until now had been nothing more than a space in which he spent a limited portion of his time, that has today become the indistinct seat of all his relations.
It is within this container that thoughts are developed, that new means and new processes are sought to find more answers. It is from there that the new form of tomorrow is defined, that what has not yet been done is built.

ON THE CONCEPT OF FORM

In Italian the meaning of the word formation lies first of all in the concept of “form”, where it is precisely time that represents the essential element of an ascending process that is not only a complex circuit of notions to be transferred and assimilated, but above all it is the immaterial instrument of culture. A process therefore not instantaneous, since its purpose is to structure, regulate, which therefore requires an adequate time course.
The Latin etymology (*formatio-onis*, derived from *fòrma*) in fact emphasizes the sense of giving form, act, style, compose, produce, and still instruct, educate. All these semantic meanings belong to the same term[1] and share the process of “giving shape” to something or someone, which in the pedagogical field is of a communicative type [1].
In English it translates to the word *training* (derived from the verb *to train* - exercise, train), with the specific meaning of “period of professional training, technical, or sports or gymnastics training”. It is therefore clear that compared to Italian culture, the English one has a meaning that is much more linked to the educational field.
Greek philosophers used to consider formation as the passage of ideas and thought, they called it *paideia*, the definition of a condition of perfection that turns to the attainment of culture in its highest and personal sense. A kind of formation that is global and has as ultimate aim the development in man of all those potentialities that are able to define his being. The same approach taken by the German thinker Edith Stein, who

[1] F. Sabatini, V. Coletti, 1999. The word "*formazione*" (s.f.) refers to multiple areas, demonstrating variations in meaning such as: 1.gradual assumption of a certain form; 2. fig. progressive acquisition, through study or experience, of a certain cultural or moral physiognomy, of specific skills; 3. disposition of the individual members in an organized structure, especially in the military and sports language; 4. Geol. Set of rocks formed in the same geological period, characterized by the same composition; 5. anat. Anatomical entity of physiological or pathological nature; 6. bot. Set of plants that have similar biological shape and appearance, in harmony with the conditions of the environment.

explains how this educational model, unlike the one developed during Enlightenment of an education based on encyclopedic knowledge (simple passage of contents), already took into account the active ability of man to make choices and thus direct his formation [2].
In Ancient Rome the Latins Cicero and Varro translated *paideia* into the term *humanitas*, which as theorized by the philologist Isaac Heinemann (1931), assumed in its historical development the meaning of education, of a training process aimed at the possession of a culture that can distinguish men from animals and allow humanity to progress [3].
The form mentioned is the same as that in which the soul of Design resides, the matter through which it manifests its sense and its meanings, where the idea is transformed into a solid and concrete object, expressing all its technical and artistic potential. Many theorize that Design, among its many definitions and specializations, is primarily a matter of culture [4] [5], a narrative knowledge that is expressed in the close link between the form of ideas and the form of things, attentive to reality and its transformations.
If the relationship between form and function has been for centuries the focus of a discussion that has produced new avant-gardes and new ways of thinking about the object of use, perhaps today it is from this same inseparable binomial that we must start again to lay the foundations of a reflection on which should be the new methodological approaches in the formation of Design, in the perspective of a distant but always closer future.
Historically western knowledge has been divided for a long time between two great disciplinary areas, that of art and that of science, but if we analyze them separately we immediately realize that they both represent two different forms that are simultaneously present in the product of design, as two faces of the same medal. Let's focus again on the word "form" that defines in the first case a human activity based on experience and in the second case an exact and reasoned knowledge based on the observation of phenomena [6]. But even so, we're speaking of form, both in art and in science.
Form is therefore a means of coexistence, of specialization of knowledge, it is a place of mutual exchange.
What will then be the form of knowledge for the next decade?

THE FORMATION OF DESIGN

The history of design, like that of man and of his vital space, resides in everyday things and is based on the ability to adapt to the changes of a society that is in continuous evolution and in which more and more knowledges intertwine, as a "strategy to change the existing situation into a better one" (H. A. Simon) [7]. Talking about Design therefore means talking about awareness, which is not only a formal and scientific response, but above all is the result of a process of interpretation of the world and of its humanistic culture. Design moves between the observation and the narration of the world.
The pandemic has led to a reassessment of many aspects of life, from work to leisure, to school and academic education, requiring a new and more flexible approach in order to respond to the emergency without being forced to stop for an indefinite pause. It has therefore incontrovertibly accelerated the speed of change and highlighted the fragility of the system that "induces a growing delay in the processes of cultural assimilation of phenomena" [6], where the changeability of things and the consequent and increasingly dominant condition of obsolescence, tends to the almost total loss of the aspect of conservation.
A necessary assimilation, however, that must be manifested and activated through a mechanism that operates in the present but that looks to the future, with the same awareness that design puts at the base of its projects, because the answers you seek today are the means by which the world can work in the future.
Observing the past is what teaches us that every formative experience has developed on the basis of social, economic and cultural transformations; dynamics of change that have not only modified what were human lifestyles, but above all they had to respond to the need to adapt educational methods and redefine the role and tasks of the figure of the designer in order to satisfy the changed social needs.
For these reasons, the training of designers increasingly revolves around multiple knowledges and multidisciplinary fields, where attention can no longer focus only on the object itself, but rather on the context and the recipient in which and for which it acts [8] [9] [10]. The figure of the designer thus opens in an increasingly preponderant way beyond the world of objects, towards other declinations including communication, social sciences and technology. Here where "designers are responsible for making changes" (V. Papanek) [11].
If we take the example of the Swatch watch apparently always the same and of indisputable recognizability, we understand how in its idea is contained the key concept to explain how this changeability operates and influences the way of thinking, in fact "the only thing that never changes of the Swatch it's that it always changes" [4]. A common and everyday object manages in its simple variability to describe that mechanism that is required today to build the foundations of a revolution of the system of education for future designers. It is therefore a matter of adding to the form a defined and targeted action, a concrete move that is activated by it, which is therefore the basis of both the conception and the production of the design object, but even before of the way in which the basis of knowledge of this discipline are transferred.

BETWEEN "KNOWING" AND "DOING"

The emergency condition has underlined the priority of the need to rethink the academic methodology approach that the UN has set as one of the strategic requirements for the year 2030, when already in 2015 it began to question what could be the objectives and goals to be achieved in the near future[2].
In order to be able to do this, it is necessary to start from the past, from now established bases, and check if those forms can still adhere to such a changed scenario, if they can still be considered current in this perspective varied and variable, or if it is necessary to take other directions.
The training of the designer, even before its professional role was defined with this term, revolved around two fundamental aspects: a knowledge handed down and an autonomous knowledge. Aspects of practice and theory, which derive from a knowledge lived in direct form and provided by a master, and the other from a personal curiosity that pushes the subject to deepen his field of investigation using a literature that is outside of regular academic practices.
In fact, knowledge moves on the border between knowledge and skills, a margin that in Design translates into theoretical

[2] On 25 September 2015, the United Nations (UN) signed the 2030 Agenda for Sustainable Development, which incorporates 17 objectives (Sustainable development goals), including number 4 - Equal and Quality Education.

concepts that are added to practical aspects. It is Chomsky (1957) who, in the linguistic and psychological field, has introduced the concept of competence as the biological potential proper to the subject through which he manages to do something, therefore that intrinsic individual condition of a man that can be developed by means of education and the acquisition of content [12]. The practice of the acquisition of knowledge in workshops, through manual work and the observation of the custodians of time, has been predominant of some historical epochs starting undoubtedly from the emblematic example of the Renaissance, of which Italy and Tuscany are absolute and universally recognized representatives. Without wanting to go too far back in time, moving away by only a hundred years, we find ourselves in a similar reality with the Bauhaus School.

In 1919 it was the first educational model and modern school institution founded on the union between theoretical and practical knowledge, with the aim of training professional figures able to develop new forms for new production systems, to respond to what were the new needs and new lifestyles of the man living in the mass society.

"Architects, sculptors, painters, we all have to return to craftsmanship!" this was the slogan with which Gropius reconsidered the importance of the manual tradition on the progress of technological sciences, that took into account how in Germany the schools that trained in the field of design were too theoretical and the professionals who came from these were technicians that were not able to meet the demands of consumers from the aesthetic point of view, who were looking for increasingly attractive products [13].

The "form" once again returns to take on a crucial role, the same importance for which in the Victorian age (1837-1901) due to an aesthetic decadentism, the public as well as the designers did not have an education sufficiently adequate to the taste, such as to encourage the establishment of educational bodies to teach the designers of tomorrow the formal aesthetic value in addition to the functional one.

Educational models such as the Bauhaus, the Weimar School, the Ulm School and many others, where the practical aspect proved to be the dominant variable, make us understand that the mastery of "doing" walks parallel to that of "knowing", meaning that the designer must also respond to a role of educator for the public, as well as to that of producing for him the objects of use. A goal that can only be reached if it is the institution that first educates designers to taste, developing in them a sort of design empathy that always passes by understanding the needs of men and providing the tools to see the project before its realization. Design has in fact a role of mediator between needs and knowledge [8].

Gropius' pedagogical solution was based on three key concepts: integration, collaboration and coordination. Three aspects that immediately make us realize how fundamental the human component is, which we cannot ignore, in the process of transmitting knowledge.

There are many schools and institutions in the world that have developed from the legacy of these principles, including the American School of the 1920s that first officially introduced the profession of designer[3]. Here the ideas of the school of Gropius spread with greater freedom of thought and directly together with his masters, who following the outbreak of war were forced to emigrate overseas. This is how the *Black Mountain College* (1933) in Asheville, *The New Bauhaus* in Chicago were transformed into *The School of Design* (1939), the *Institute of Design* (1945) and the *Illinois Institute of Tecnology* (1949) [13].

The social aspect that used to place man at the centre of the process of construction of the forms of design is also found in schools of applied art and organizations in Northern Europe, whose main objective was precisely to guarantee welfare conditions and improve the quality of life. A common goal to Italian Design that, like America, transposes the German institutional model, inaugurating schools-laboratory because "to learn you have to do. One knows better a thing one does with one's own hands, than a thing that is already written far and wide in a book" (V. Gregotti).

Compared to the rest of the world, however, Italy begins to found and promote schools and degree courses in Design only in a rather recent era[4] [14], although it is a nation that boasts an undisputed record for its ability to know how to combine in aesthetic languages the synthesis between formal evolution and technological innovation [8]. One of the first and experimental examples to remember is the case of the I*stituto Superiore per le Industrie Artistiche* di Monza (now ISIA) born in 1922, which recognized the education and learning of a profession as the means of social elevation of the less well-off classes. The Institute, which followed only the *Humanitarian School* of Milan in 1902 and inherited it, was based on the model of the laboratories of the Bauhaus and on a close link with the territory.

The parallelism between "knowing" and "doing" is a field of investigation and reflection repeated several times over the decades: in Italian design at the end of the seventies of the twentieth century the radical architects are the ones bringing attention to manual and territoriality [15], because the culture of "know-how" is what distinguishes the quality of their activity, an individual thinking (see artists/designers such as Mollino, Fornasetti, Ponti, Mari) that brings back with originality the complete meaning of design in everyday things. Thus, individuality is claimed through new forms of expression that no longer presuppose homogenous behaviours and lifestyles [4].

In the pedagogical field, this relationship is treated by authors such as Mager and De Landesheere in the concept of "pedagogy for objectives", which supports precisely the importance of "knowledge" linked to "doing" therefor that education is the result of the application of knowledge with respect to what one is called to do.

THE CONTRIBUTION OF TECHNOLOGY

"Modernity in wanting to make a break with the past has caused the loss of knowledge built over the centuries in an irreversible way" [15].

[3] The designer's profession was anticipated in England by Henri Cole (1808 – 1882) in the figure of the "Art Manufacturer" which he himself coined to rapresent a designer educated in aesthetics and able to trasfer it into products in order to impreve its quality.

[4] A. Pansera, 2015; G. Furlanis, 2018. In 1950 it was the Scuola Superiore di Belle Arti in Domodossola, the first de facto school in Design, followed by the Scuola Politecnica in Milan in 1959. In the university field, the first Faculty of Design independent from the Faculty of Architecture was founded in 2000 at the Politecnico di Milano, giving the discipline academic autonomy. Also here is the first Bachelor's Degree in Industrial Design in 1993, but it is the Specialization School in Industrial Design of the University of Florence and the University of Naples Federico II that in 1990 designed the path of the autonomy of the discipline. 1996 is the Bachelor's Degree in Industrial Design at the Polytechnic of Turin, 2001 the Course in Design and Arts at IUAV of Venice, 2008 the Master's Degree in Design at the University of Florence.

A condition that today, more than in any other historical moment, has found itself living with a material distance that has overturned the traditional habits of dialogue, forcing scholastic institutions to use alternative methods of communication.
That close relationship between student and teacher that was before established in the workshop, then in the classrooms of the Bauhaus, up to the Laboratories of the Universities of our time, was swept away and mediated by a distanced communication, filtered by a screen in which to pass messages through a new organizational system.
In this scenario surely computer science has proved to be a valuable ally and the development of distance communication has allowed to ensure the continuity of teaching, but necessarily on the other hand it opened up several questions that first led man to test himself against the force of habits.
Teaching has undergone a change of form from classrooms to home desks, varying the type of relationship between the subjects involved. An experiment that is currently happening in Italy that we could consider as the pilot episode of a methodological action increasingly geared to the use of digital instrumentation, where relationships should be built in another dimension, at a new level compared to traditional methods, following cultural roads so far just imagined of a future scenario where digital technology will play a major role in the multiple aspects of human life, but whose perception still seems too far away.
An innovation that has followed the need to simplify processes, make them more flexible and faster, so as to have more performative answers even in terms of time. A choice that also follows the now common habits of transferring knowledge through the use of new technologies.
The Distance Teaching System (DAD) promoted by the Italian Government and supported by the MIUR (Ministry of Education, University and Research) follows the principles of protection of the rights to study of children and young adults, established by the UN Convention of 1989. Art. 28 states that "every child and every child has the right to be educated and educated". DAD sets its action on the reflection that what actually makes us grow are not habits, rather changes, because it is through the awareness of the real situation that the ability to find creative and adaptive solutions develops. On these guidelines, DAD offers the possibility to continue the training course even if students and teachers are physically distant. The MIUR defines it with a double value: "on the one hand, it is serving to keep alive the class community, school and the sense of belonging, fighting the risk of isolation and demotivation. On the other it is essential not to interrupt the learning path" (Notes prot. 388 of 17 March 2020).
A teaching that certainly offers different degrees of freedom for those who teach and for those who learn, but that has substantially changed the direct relationship between student/ teacher reducing the importance of the human factor, limiting the experiential contribution typically sought by the contemporary both in education, in daily activities, and in the design of spaces and objects, which has the ability to add quality to products.
Can this system then be valid to support or replace as long-term or wider ranged educational methodology, and ensure performative responses by opening up the scenarios of teaching in the next decade? Or is it to be considered a form that can only be applied in isolated and specific circumstances?
These are certainly the questions with which we have opened a debate today.

CONCLUSIONS

At the moment we are witnessing with renewed emphasis a condition of "widespread design" [11], where the designer no longer has a well-defined and circumscribed role, but rather he becomes a commonplace belonging to an ever-increasing number of disciplines and territorial realities. An almost alienating condition that has stirred up certainties, sometimes freeing processes from established traditional methods to make use of innovative systems that change the way of communicating.
We have now clashed with time and had to learn to measure ourselves with its value, turning those solid certainties into horizons to be discovered and redefined, and just as in the early years of the twentieth century the Deutcher Werkbund encouraged artists and intellectuals to collaborate to give new habitability to the world devastated by industrialization, today we rely on new designers to rebuild living spaces. New models of living that adapt and align to the changed scenarios marked by the pandemic. The post-industrial civilization in fact began to operate through flexible devices able to adapt to frequent mutations, replacing projects of a definitive nature because they were no longer applicable and consistent with the changing socio-economic and cultural dynamics.
The spread of knowledge as a "liquid modernity" [16] finds itself taking multiple forms according to content, transferring collective universities into individual residential dimensions, transforming private spaces into public places, modeling itself each time as needed. Scenarios based on a virtual network of relationships, which transcends any kind of territorial boundary.
In this way, new ways are being sought to reproduce in a contemporary way those principles of collaboration, integration and coordination of the Bauhaus, that system of exchange between teachers and students, putting in circulation a more empathic formation that is built for example in the close contact between the ideas of several subjects.
Design thinking is, for example, a participatory methodology that has developed in recent years and is trying to replace a transmissive type of teaching with an improved and more involving form both from the point of view of content and of relations between subjects involved. It is a matter of giving rise to a less notional and more professionalizing training, a more flexible and experiential learning that finds in the participation still a new type of exchange.
Learning by doing, a modern version close to the Bauhaus model, is a methodology that transforms the pupil from a passive auditor to a participatory subject of a study process that finds in the laboratory the instrument of union of "knowing" and "doing", aimed at active learning of knowledge through manual experimentation.
Universities have welcomed the digital revolution through the use of new instruments able to represent and tell this project in a way that is increasingly closer to reality, allowing the final user to have a better understanding and readability of the product designed. Communication undoubtedly acquires a priority role in the new educational models, because it not only fulfils the role of communicator, but becomes a means of knowledge. The future young designer will have in his hands the tools and skills to be able to narrate his work, not only in terms of production and realization, to put the public in the conditions to learn the history of products, not only limiting them to the use or to the aesthetic pleasantness, but making them vehicles of narration. What is in fact transformed on the basis of temporal changes are not only the productive or social dynamics, but the very culture of the project.

So if being a designer means giving shape to the continuous changes, today even more we have learned how weak the world in which we live is, so in the time horizon of 2030 we must learn to live with uncertainty and to be able to transform the forms of knowledge, to adapt them to mutations and new needs, to keep open the window to the world freeing curiosity and creativity, without, however, dispersing the traces of the past but giving them back the appropriate value.
It is therefore necessary in this process to maintain relations with the reality that surrounds us.
Because “nothing is created, nothing is destroyed, everything is transformed” (Antoine-Laurent de Lavoisier, mass conservation Law, XVIII sec).
It’s then just a matter of form.

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