TEXT 1

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DIMENSIONS OF DESIGN: OPERATING IN A NEW SPACE OF OPPORTUNITY

Has there ever been a better time for designers? Design is omnipresent hype today, and the word itself has taken on an inflated meaning. Well-designed, intuitive objects shape our everyday lives. Above and beyond mere "beautiful things," design is also regarded as an instrument of innovation and as an auspicious approach to problem-solving—such as in the context of societal change and the digital shift. As a submarket of the creative economies, design is seen as one of the drivers of economic growth. Design has become a means of assurance that is used to adorn all manner of things, from newly developed products ("designer products") to special services ("designer hotels") and even dynamic cities ("design metropolises").

However, the many designers active today have a noticeably less euphoric opinion of their field. To earn your living as a graphic or product designer remains a big challenge. Good design is pretty simple to achieve today, and success is only made more difficult because the determining precepts seem to be economic scaling and being as quick as possible. Competition among designers is immense, and consumers are increasingly reluctant to pay prices commensurate with the quality of work they get. New technological opportunities are also turning users themselves into designers. This means that the profile of the designer and what he or she actually does is becoming ever more nebulous and open to suspicion. So is design in fact in an identity crisis?

Whether we decide to share the euphoric or the pessimistic view: the playing field of design and the tasks of the designer have indubi-

tably been transformed. The focus today is not just designing aesthetically appealing products. This is because the design process itself, along with appropriate ways of communicating and orchestrating it, have become further areas of expertise in the discipline. We are not really dealing here with any fundamental shift in activities and competences, but rather with an expansion of the overarching design space. The field of design now encompasses very diverse tasks, and all manner of different facets are becoming visible.

This diversity of design is leading to more and more confusion. Outsiders do not understand everything that design does today. In the design community itself, the expansion of the discipline has led to pointless turf wars in which designers dispute each other's very *raison d'être*, or refuse to regard each other as true representatives of the discipline. Both inside and outside the field, there is an urgent need to define design's areas of activity, and to give back a sense of orientation to design as a discipline.

But what is design? What can it actually do? And what role can it play, today and in the future? Is design a product, a method, an approach or even an overarching culture? Where does design happen, and when? How are different design activities differentiated? Or are they all in fact linked? What knowledge and competences should designers possess today?

The present chapter takes up these challenges by carefully examining this new area of opportunity, and by endeavouring to make tangible the core dimensions of design. Our aim is to unravel the design discipline's different

levels of activity and impact, and to relate them to each other. Our exercise thus begins with a position statement on design as a transformational discipline. In a second step, we will open up the design space by describing three dimensions for it. Then we shall illustrate how this framework might be applied in design practice. And finally, we will discuss how this newly created space for opportunity can be further developed into an overarching design culture.

DESIGN AS A TRANSFORMATIONAL DISCIPLINE

Up to now, there have been few successful attempts to reduce design to a common denominator, or even to find a generally applicable definition for it. The design researcher Kees Dorst is one of those to have paid fitting tribute to this fact, devoting a whole book to musing about what we can understand by "design".[1] We are thus faced with an apparent impossibility. However, if we nevertheless aspire to attain a better understanding of the design space, it will be necessary (as well as fascinating, too) to examine whether there is a common understanding between different subdisciplines such as graphic design, critical design and organisational design, and to see where they might overlap.

These subdisciplines have themselves been transformed in recent decades. Whereas it used to be clearly defined what specific object is to be designed (such as a chair), and

[1] Kees Dorst, *Understanding Design: 175 Reflections on Being a Designer* (Amsterdam: BIS Publishers, 2006).

which subdiscipline would be responsible for this (e.g. product design), today the specific design subdiscipline responsible is increasingly emerging only during the actual process. Even when the prerequisites for a task are identical, the intended use of the product and the concrete context of its utilisation can be fundamentally different, depending on those involved or the perspective taken. Here, nothing is definitively right or wrong. The results we strive to achieve are part of a complex process of negotiation in which different views and value systems collide and can shift again at any time.

In our search for a common definition, we would do well to consider the opinion of Herbert Simon, one of the cofounders of design science. As early as 1969, he defined design as a practice for "changing existing situations into preferred ones." [1] This definition does not at all specify how we should view current, "existing situations," nor for whom the "preferred ones" are to be designed. However, Simon's pithy definition aptly sums up what design is essentially about: making a successful, concrete change to the here and now. In all this, it is actually of little consequence what phenomenon we are investigating, on what level or in what field or design discipline, or from what perspective, nor whether or not those involved are designers or non-designers.

According to this definition, design is primarily to be understood as a transformational discipline. And we could easily interpret this definition as meaning that every de-

[1] Herbert A. Simon, *The Sciences of the Artificial,* 3rd ed. (Cambridge, MA: MIT Press, 1996).

sign activity can be reduced to a simple problem-solving process. Instead, however, we wish to argue in favour of an interpretation by which, for example, even an artistic intervention or a new game can be altered into a desirable state for the long term. The world-famous designer Charles Eames was once asked whether objects had to be useful, or whether they could in fact be designed solely for pleasure. He replied, astutely: "Who would say that pleasure is not useful?" [1]

Just how varied the transformational power of design can be, on what levels that transformation may actually occur, and in what different forms it can come into effect, is something that we can illustrate by means of a simple example. Today, design can be found in just about every department of a company. In its marketing or communication departments, designers will create different communication products (such as brochures or posters). In its technological division, UX designers will contribute to setting up digital channels such as websites and social media offerings. Even in independent innovation labs or R&D departments, designers are brought in as innovation specialists. When companies pursue a resolutely customer-oriented approach, designers today play a major role in corporate development, taking up positions on company boards and assuming the function of "challengers" by assuming active roles in social-responsibility initiatives, helping to break open entrenched

[1] Charles Eames, "Design Q&A," an interview on the occasion of the exhibition "Qu'est-ce que le design?," Musée des Arts Décoratifs, Palais de Louvre, 1972, accessed November 6, 2019, http://youtu.be/3xYi2rd1QCg.

structures, or working as cultural coaches to help scrutinise and redefine the dominant corporate culture.

All the above-described design practices can be seen as transformational activities and processes in very different areas, at different levels and of different types. What they all have in common is a similar set of principles. Here, we shall focus explicitly on three core approaches.

The *entanglement of problem statement and problem-solving* is one of the basic phenomena of the transformational process of design. It creates an understanding of the current state, and of the desired state to be designed. On the one hand there is the current reality that first has to be understood in one way or another; and on the other hand there is a possible future that also has to have a specific aim. Designing this transition from the one to the other is the task that designers have to undertake. It is typical for one to jump constantly from the problem space to possible solution spaces and back again. Such loops are helpful in achieving a better understanding of the actual problem at hand. The close intermeshing of real and future scenarios makes necessary a process of constant framing and reframing. Understanding the problem and creating possible solutions does not take place either sequentially or separately within the transformation process; instead, it is the close entanglement of both areas that is characteristic of design as a transformational discipline.

The mechanism of doing and reflecting is the driver of the transformation process. Here, designers utilise different methods that

help them to understand reality better, and to be able to sketch possible futures quickly. One core approach is to make ideas manifest in all manner of imaginative artefacts: doing, trying things out and experimentation are the central mechanisms that provide answers to questions about the current situation and about possible, desirable solutions. To this end, designers use elements of reflective practice. They directly reflect on what they are doing as they do it, and are thereby able to engage in an iterative correction of their understanding of reality and of the framework in which they view both reality and a possible future state. The artefacts thereby produced help them to put their ideas into concrete form, and serve as vehicles to promote real transformation.

The principle of collaboration and change of perspective is the third element of these transformational processes, and the basis of success. The problems themselves have today often become so complex that they can only be solved by involving many stakeholders. As a result, designers have become accustomed to working with a multitude of other people. What is important here is not just engaging empathetically with others, but changing one's own role as a designer throughout the process of transformation: to shift from being a thinker to a doer to a facilitator to an implementer. This constant shift of perspectives, roles and scaling demands an ability to zoom in and zoom out; it requires the art of designing the particular while also taking a holistic

Donald A. Schön, *The Reflective Practitioner: How Professionals Think in Action* (New York: Basic Books, 1983).

view. Designers are thus also systems thinkers, and bring with them a lot of knowledge, understanding and empathy for other points of view. Designers are the ultimate team players.

As these explanations make evident, the definition of design as a transformational discipline offers us a solid foundation on which we might be able to better measure out the core dimensions of today's design space, and thus stake out more clearly the space of opportunity offered by design. It is our task here to define this design space not just for designers themselves, but also so that we may communicate it intelligibly to all others who are involved. If we can construct a mental model of a design space, then everyone will be able to hold onto it and orient themselves by it.

DESIGN IN THREE DIMENSIONS

Designers prudently define their specific activities and areas of action in an individual, varied manner. However, if we can come together around a generic definition of design as a transformational discipline, as propounded in detail above, then we are confronted with the concrete question as to where, when and how design can act as a driver for these different processes of change. Proceeding from the above example of different design activities in a company, we can sift out three dimensions here. In the first dimension of transformation, the designer is active in the design or improvement of concrete artefacts. This may mean developing a new brochure, improving an interface, or coming up with a new web game. In the second dimension of transfor-

mation, the development process itself is in the foreground. Here, the primary focus is the skilful embedding of design and orchestrating an ensemble comprising many stakeholders. The designer here acts as a decisive piece of the jigsaw puzzle, responsible for innovation, and also as a design facilitator in collaborative processes. In the third dimension, the designer engages with fundamental problems and societal value systems. In a company, this may involve overarching aspects of a strategic realignment through a more customer-oriented approach, or issues of societal positioning and responsibility.

These three dimensions of transformation are concerned with the creation and improvement of objects; with orchestrating and participating in innovative processes at a systemic level; and with the long-term transformation of societal fundamentals. They serve as central pillars of the comprehensive space of opportunity in which designers act today. It is instructive to observe what concrete competences are required of designers in these three different dimensions.

In the *artefact dimension,* designers bring about change through developing new objects or through the incremental improvement of existing products. The degree of detail may be minimal on the surface—such as designing the behaviour of an interactive element in an interface or an innovative plug-in connection in a shelf. But while the degree of change is often not consciously perceivable by the user, its impact when used can be immense. It is characteristic of work in this dimension that designers engage in developing

and implementing the most appropriate solution possible for a relatively well-described problem. Here, the transformational achievement of the designer consists in analysing selected aspects of any given situation in as holistic a manner as possible, and creating a highly distinct solution. This happens in innumerable iterative loops, and the path to a satisfying result encompasses a multitude of discarded prototypes and variants. Designers act in the *artefact dimension* as experts in artisanal, aesthetically and functionally convincing design solutions.

In the *system dimension,* the designer acts in an environment with many participants. Here, change takes place not least in close collaboration with businesspeople, IT experts or social scientists. A desire for a greater customer focus has given designers a new role, especially since the success of agile processes. Their expertise here lies in actively taking part in these collaborative processes, or even in orchestrating them. The emphasis is on the designer's comprehensive methodological ability to lead these groups of different participants expediently through the process and to realise joint solutions on the ground. A great gift for synthesising information is needed here, in order to get the maximum out of the many different sources of knowledge and perspectives of those involved, while always keeping one's eye on the needs and context of the actual users. In this *system dimension,* designers act as experts for collaborative processes and methods, and employ their unique ability for shifting focus regularly from the ultimately particular (i.e. a concrete

solution) to a holistic view of the development process and utilisation context.

In the *societal dimension,* the designer applies his or her transformational energies at the highest level, because this dimension is concerned with societal challenges and the transformation of value systems in a globalised, digitised world. Here, the designer has to think and act in much broader contexts. The example of self-driving cars in the subfield of design shows that here innovative achievements are just as relevant as dealing with overarching questions as to the meaning and purpose of such developments. In this dimension, designers are optimistic but critical voices who endeavour to approach new challenges from as many perspectives as possible. What is needed here are technological means of harmonising corporate or political interests and the needs of people. Designers especially need to be able to change perspective quickly and to see the close interdependence of the problem statement and the problem-solving process. In this *societal dimension,* designers act as experts with a holistic perspective that is complemented by highly specific approaches to problem-solving, enabling them to bring about long-term, sustainable changes.

ACTING SUCCESSFULLY IN A MULTI-DIMENSIONAL DESIGN SPACE

So how might we use this multi-dimensional design space as an instrument for designers in concrete terms? First, it is important to add that the dimensions described above cannot be completely separated from each other. In

this conceptually created design framework, it can be helpful to speak not of "levels" but of "dimensions," even if the division into artefact, system and societal dimensions carries a certain hierarchical structure within it. If we speak of dimensions instead of levels, then design can take place in a virtual space that is intersected by the three transformational dimensions of "artefact/system/society," which for their part also overlap in numerous areas.

All three dimensions of transformation are touched upon regularly in every design project. Sometimes this occurs successively, at other times simultaneously and across all the different phases of the project's development, though one or other of these dimensions will stand more or less in the foreground. Designers are not always aware of this. This leads to the confusion described at the beginning, both in the designer guild itself, and in how others assess the discipline from outside. However, we might well argue (without taking too much of a risk) that it is only those who are active in all three dimensions of transformation who will be able to make full use of design's new space for possibilities.

Each of these dimensions can be assigned a question that can support successful action in the multi-dimensional design space. In the *artefact dimension,* designers are concerned primarily with "WHAT?"—i.e. with the question as to which concrete solution will be the most appropriate for a specific, describable problem. In the *system dimension,* designers are increasingly concerned with "HOW?" Here, they have to bring their specific expertise for collaborative processes and methods

into a group of other participants. And in the societal dimension, designers are primarily confronted with the question as to "WHY?" Here, designers have to insistently ask why certain changes ought to be undertaken.

According to those on the outside, the focus of design practice lies more on the "WHAT?" than on the "HOW?" or the "WHY?"—and thus on achieving convincing design solutions in the form of artefacts. An awareness that design and its practices demonstrate expertise primarily in the HOW and WHY dimensions has hitherto been insufficiently acknowledged, both within the discipline of design and outside it. However, design has the potential to make use of all dimensions to the same degree, and can thus simultaneously ensure incremental improvements in products, in innovative collaborations with other disciplines, and in the long-term transformation of society.

The "Golden Circle" can be used to support this. It is a leadership model created by Simon Sinek ⋙ that is also founded on the three questions "WHAT?," "HOW?" and "WHY?" However, its prime focus does not lie on the "WHAT?" as is usually the case, because this model instead deals with these three questions in reverse order. It begins with "WHY?," in which the people's basic motives and goals are invested. Only then does the "HOW?" follow, representing the processes and methods of the participants. Finally, there is the "WHAT?," which defines the concrete result.

In order to expand the overall space of opportunity for design and to make it more tangible, it seems advisable to start not by fo-

cussing on the results of the different transformational processes (the "WHAT?"), but by instead focussing on the "WHY?" and the "HOW?" As explained above, design also has much to offer in these two dimensions of transformation. Designers thus need to place these expanded competences more consciously in the foreground, and must point especially to the fact that it is the skilful cooperation between these three dimensions that can lead to convincing results.

EMBARKING ON A NEW DESIGN CULTURE

The present chapter began with a euphoric assessment of the new roles and possibilities of design in our own day. At the same time, there have been complaints that this new stance is still not receiving adequate attention, either inside or outside the field of design. Our endeavour to position design as a transformational discipline has laid the foundations for a more intense scrutiny of design's new space of opportunity and enabled us to formulate the three different dimensions of design activity. These three dimensions reveal the full transformational power that design can exert.

And yet design should not be understood merely as a decorative discipline nor as pure method. The broad staking-out of the design space that we have undertaken here can really only be regarded as a beginning. In future, we will need to understand the transformations in this new design space—as sketched out here—

Simon Sinek, *Start With Why: How Great Leaders Inspire Everyone to Take Action* (New York: Portfolio, 2009).

in the context of an overarching design culture. In his critique of the adaptation of design thinking in a corporate context, Erik Stolterman summed things up very nicely: "Any design approach needs to be situated within a designerly culture that understands what design is, what it requires, and when it is appropriate (and not). Design thinking needs a surrounding culture that protects its strengths, uniqueness and core so it can perform and deliver what it promises." [1]

This can be understood as an exhortation to all designers not only to develop a better understanding of the opportunities of the design space and to practise their own expertise more insistently, but also to work together on a broader understanding of design culture in very different fields and contexts. This will only succeed if we understand our own stance, expertise and instruments better, and if we endeavour to play an active part in every project. That means not just being proud of successful design solutions, but continually addressing the different elements of an overarching design culture and actively practising them in our lives. Only in this way can the full transformational power come into its own as something that designers can both purposefully initiate and successfully implement.

[1] Erik Stolterman, "Why Design Thinking is Not Enough," May 18, 2018, accessed November 6, 2019, http://medium.com/@estolter/why-design-thinking-is-not-enough-75c8a71032d2.

DESIGN IS PRIMARILY TO BE UNDER-STOOD AS A TRANSFORMATIONAL DISCIPLINE