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nterview with Peter Friedrich Stephan and Consultancy by Desig Design Thinking is far more comprehensive Research

When its about tracing the surprising convergences and stimulating differences at the interface of two traditions of thought, nothing is closer to get two recognized experts and inquisitive minds into a conversation. Communication problems are not unexpected, also in the case of system and design theory. Prof. Peter Friedrich Stephan and Dr. Bernhard Krusche are not deterred by them and dare an attempt to draw a bow: from the fundamentals of design and it's history, to a research program on innovation potential for organizations in the Next Society.

Bernhard Krusche: To start with something basic: What is the question to which design might by a response?

Peter F. Stephan: It suggests itself to say: complexity. Designers reduce complexity by controlling perception, creating preferences and making selections easier. The designer assists in coping with the impositions and excessive demands of the world, by providing sovereignty or at least its simulation. He brings the ever-increasing technical and social complexity to a processable level in the living world. The idea is to find a proper handling of the crisis of knowledge. We call it consistency.

A crisis of knowledge?

Gaining bigger knowledge from an ever smaller part of the world is not worth the effort. Simple knowledge is trivial and can be bought. What we need is knowledge to the square to know what you know but also to know, what you don't have to know - informed knowledge or knowledge-design. A perspective on knowledge-work as a design object on the one hand may lead to simplification, as shapes and patterns with a higher conciseness are preferred. On the other hand, however, design thinking provides opportunities of pattern recognition and new relationships are discovered that were not recognized before. This leads to an increase of complexity.

If design limited itself to the reduction of complexity, it would only be reactive, unable to develop an own perspective. The disappearance of all complexity tomorrow would not result in the designer's unemployment. He would rather immediately begin to create new complexity by diversification: Design related decisions are contingent. Why not try this new form?

In this respect, design can provide no progress in the sense of better answers or the disappearance of questions. The designer is a co-worker in the production of complexity, generating a wider range of possibilities, in which he can then place new forms in accordance to his own criteria. Let's put it like this: Design is located on both sides of question as well as answer and creates its own demand.

Well chosen words which remind me a little of Baron Munchausen, who creates a swamp out of his own questions, out of which he then even pulls himself by his bootstraps. Has this - with a glance at the history of the term design - always been like that?

In former times the integral responsibility for the meaningfulness of all references of drafts, material and production process laid in the hands of the craftsmen. But this link vanished with the introduction of industrial division of labor at the latest. A model maker was needed, a specialist in design, not only responsible for the products, but for the entire company and it's self-understanding. This can be traced to the first founding figures such as Peter Behrens at AEG. Or later and even more clearly in the work of Dieter Rams for Braun - an organization that had defined itself completely through design.

Thus, the designer is a specialist like many others, namely in the field of design and intuitive communication. But at the same he is expected to transcend this specialization and to perform actions that others can not do, namely bridging partial interests in favor of an overall perspective. Therefore designers deal with the paradoxical situation of being specialists in generalizations.

Can we picture this like a general manager? In the organizational context these specialists undermine or overcome borders, e.g. different functions. They are dedicated to understanding and defining their individual performance processes in the bigger context - or at least should be.

I wouldn't be to sure about this - these specialists might be integrated as a part of the organization to a degree that allows less freedom or scope to deal with the complexity in the sense just indicated. My impression is that managers - whether general or normal almost always choose the option to reduce complexity on their journey. And by doing so become a part in the

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set of rules, become a part of the problem so to speak. The designer can be rather thought of as the jester at the court of the industry, someone who wins new playing fields in his interplay with the organization but pays for this with his powerlessness. The case of the manager doesn't appear to me in that way.

Is that the reason for the insignificance of the design approach in organizations: because the designer wears the jester's dress?

If only the designers were that clever! We probably still have ahead of us the examination of opportunities and risks, precisely: the tactical aspects of one's effect in these contexts. I believe we are slowly starting to recognize the possibilities of a design approach in organizations.

Design permanently takes place in organizations, but unfortunately in most cases with a lack of awareness and therefor quality. It's like with communication: even an absent or a poor communication can be described - in this case - as a deficient communication. And we face quite an amount of deficient designs in organizations.

Therefore it is important to educate organizations about their always concurrent design activities. It's not that much about introducing incredible new features, but rather about recognizing the things taking place and developing them mindfully. It is this intangible closeness that constitutes the core of design.

But why do some companies spend so much money on design?

Indeed corporations, the media and politics share a deep belief in design, as can be perceived in various event designs.

Limited attention leads to positive feedbacks making necessary an intensification of efforts - to both creating diversity and conciseness.

But this is still a very limited understanding of design. Design has a greater potential to put an entire company on a new level. This requires, however, a type of designer, who represents this claim in a credible manner, showing companies that design might cost a bit, but the lack of design is still far more expensive.

So far, the power of design often faces the powerlessness of the designers, as long as they ingratiate themselves only as part of the power equipment to board members and opinion leaders, as in former times did the court painter to princes and kings. In this point of view the designer can be perceived as a skilled worker for audio-visual rhetoric, with the target to invade the addressee's attention and convince him. The content is then not provided by the designer, who – in the worst case – designs only the PowerPoint templates.

Claiming to carry creative thinking to the control desks of economy and science must be founded much deeper. This is primarily a task for design faculties and should provide sufficient motivation to carry out independent research. Therefore we developed the Master of Leadership in digital communications at the University of the Arts in Berlin, where capabilities in design, business and technology are taught within an integrative concept. After graduating, most participants have a new job or start something of their own.

How would you describe this claim?

Formally, designers were placed towards the end of product development processes, the translation into the market as their task. With the increasing trivialization of technology and faster development cycles came along the recognition that designers should be involved from the beginning. In this marriage of designmanagement a participation of designers in strategy development was demanded. Here, designers joined the snapping and growling of all the other consultants gathered there, stepping on another's feet and coming along with very different credentials, to which the designers often had nothing to oppose and therefore quite frequently dropped out.

Dropped out?

Yes, because they were not able to develop a strong position in the discourse, had no independent terms. Experience was their only argument. And in a pragmatic perspective, when it comes to changing the green ribbon of the Dresdner Bank into the yellow of Commerzbank, there is no need for an overload of discourses. In these cases simple craft is often sufficient, which often can be offered by the companies themselves.

Comprehensible. And somehow reminds me of the destiny of so many systemic consultants.

We now come along with an even more extensive onclaim and declare the whole strategy question as the design task: business design. Thus it is possible to irritate the enterprises in a productive way. Other categories can be queried. By doing this, uncertainty is imported or the ever-present uncertainty is assessed positively instead of being dissolved prematurely to anticipated security. Otherwise nothing can be learned. Therefore the designer must not be a yes-man, who only confirms and updates the already present. He is rather empowered to question the customer and set him into possible futures. This can sometimes be uncomfortable: Get out of the comfort zone! But in a smart company the designer is seen as a mentor and sparring partner. By this practice weaknesses can be revealed and radical new approaches can be found. Design is no longer a fashionable reshaping of products at the end of their life-cycle, but becomes a form of comprehensive sense-making of the entire enterprise: The Design inspired enterprise.



Did I get this right: In the context of organizations you see the designer as a payed disruptive factor?

Dirk Baecker located the benefits of design between irritation and fascination. And that hits the point. Irritation is only one side needed to learn. The other is the fascination, and here designers can play out their entire repertoire of draft openness, conceptual intensification and demonstrative presentation. The aim is to produce images of the future, which show effect as questions back in the present: Do you want to live like that? Superstudio, a group of italian architects, used this technique to back in the early 1970s to create collages that dealt with life in the net. Long before any technical implementation this cultural issue had been formulated.

I see a great opportunity here for companies and other organizations to profile themselves as competent questioners. All the advertising rhetoric from "we have understood" (Opel), "we clear the way" (Volksbanken-Raiffeisenbanken) or "we belong to the family" (Siemens) seem rather shallow. "We try harder" (Avis) is completely wrong, but "solutions for a smart planet" (IBM) goes in the right direction.

The companies of the future must maintain their cultural competences and offer these in the form of fascinating images. In the age of social networks and open innovation this can only be achieved by a authentically practiced culture. Everything else no longer seems credible, neither to customers nor employees. The aim is to create space for imaginations and values that last longer than the next quarter. The claim "the computer for the rest of us" used this perfectly in the Orwellian year 1984. Why is there no social network "for the rest of us" today, who do not want to be managed by Facebook? The task is finding the forward-looking metaphors, images and eventually also business models in this dimension.

How is work done here, can you give an example?

The application of classical designing methods can be taken as a starting point, for example the permanent re-framing of problems. An openness to dialogue can be found here, also allowing the reflection of questions of organizations, enquiring the definition of problems. Its like with a good doctor who does not only stick to the treatment of symptoms, but uses additional checks to get to the causes lying behind.

This is of course a more demanding approach requiring more trust and more time.

Any self-respecting systemic consultant would use just the same expression: "Never be satisfied with the problem formulated by your client!" Do you see the only difference between consulting and design thinking in the methods? The former learn enquiring techniques, the latter architecture and prototyping ...

We are very likely to find wide intersections and that good designers won't have to reinvent everything but can set up on existing practices. But on the other hand designers can offer their specific method of "thinking with a model". The fabrication of ideas is seen as an interaction with a feedback channel, whereby these might develop a forwardness. The developer doesn't know everything in advance and then presents it in a model, but he rather extends his thought by externalization. This ability and the appendant instruments are strongly upvaluated by digitality. Simulations are seen as adequate cognitive instruments. Therefore I pledge not only to carry a set of methods from A to B, but to recursively apply the new spheres of influence on the self-concept of design and maybe also on consultants. For design this means new recognition principles are required, for which many designers are seeking and find in systems theory or cognitive sciences. I see an interesting interface here.

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Which methods do you use?

There is a variety of methods - some from design, others from different fields. Many work with descriptive representations like e.g. blue print maps, who allow a rapid testing of a business models capacity. Others rather make use of observance and self perception like journaling. In these cases it's less about enforcing innovations but rather allowing them to occur as an

emergent phenomenon, pushing itself to existence from within.

I developed the method of "scope and drill down". It uses two extreme positions: a holistic perspective and a view on the details. This approach is taken from architecture, where on the one hand there is an allembracing plan and on the other hand the details like the seam on the cladding. On huge construction sites in some cases a corner of a wall with a window is built for demonstration purposes, while not even the fundaments have been laid. And that is what it's about: Providing a demonstration of the quality in a concrete and appraisable way to the user while still working on the bigger frame. These spheres are usually divided and are ran through sequentially in product design, as they are attached to different departments.

The designer as a visionary and craftsman in personal union is predestinated to combine and attending both dimensions simultaneously. On the one hand a range of possible actions is scanned for options and on the other hand discovered qualities and values can be carried out in products and services. Usually most of the effort goes into business as usual, that lies in between, but provides little innovation.

So what is the difference to design thinking in the end?

Design thinking has become a popular label as eminent people campaigned for it. In the center lay the good old creativity techniques with focus on "groupthinking" and pragmatic, fast solutions.

Basically this is a positive thing of course, as more attention for the possibilities of design is created. But the price paid is high as it reduces creative work to triviality. Everybody can be a design thinker and should be one. But this should not be confused with the professional work of designers and design researchers.

I really got this straight while a listening to a speech from the IDEO founder David Kelley. He described design thinking as an attempt of making creative thinking fruitful for people who were not designers. He compared this to the different aims of musical education: There are professionals trained on music schools who later become the great classic stars. And there are the others who pick up ten songs taught in order

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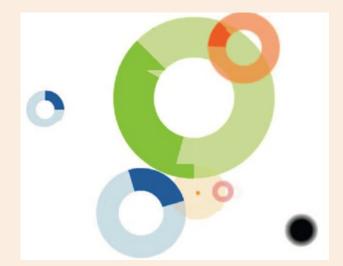
to entertain a birthday party. And the latter is supposed to be design thinking!

Jepp, a murmur went through the room, as many professional designers sat in the rows. According to Kelly it is all about providing a narrow-gauge version of design for non-designers. So that atom physicists or business economists can be brought to design thinking. That is wonderful and easily marketable. But this kind of "science fair" approach has nothing to do with our professional goals. This is a misunderstanding. And that is why the term of design thinking seems conflicting. At first sight it might be a good door opener, but as soon as one puts a step through that door more is demanded. This is why I rather prefer to deal with questions that formulate a design-oriented consulting approach under the title "Designing Innovation".

Hm. This isn't really clear to me. How would you circumscribe these two concepts?

Creational thinking is a far more comprehensive concept compared to design thinking, which mostly consists of 6 steps: First observation takes place, followed by idea creation, then prototyping, a few recursive cycles and lateral thinking and so on.

The design-innovation approach also uses these elements, as they have always been the basic of design. But it goes even further and attempts to set up the innovation process as such with regards to aspects of design and align the whole company in that direction. Usually, impulses for innovation processes either come from the technological side or are initiated in the market, as something doesn't work in a way it formally did. The basic logic of action is reactive, so



one is almost steadily to late. I see the greatest need for action within organizations and the largest adjusting lever for design here: not imagining the future based on facts from the past, not reacting, but anticipating. Without losing focus on existing circumstances of course - but with sufficient distance, enough latitude.

Design thinking in contrast remains a punctual way of problem solving. When it gets to the assurance of organizations success in the future it's all about agenda setting, coordinated by Designing Innovation as a permanent process.

Can one not only design what already exists? Or how do you form the future?

Heinz von Foerster coined the term: "The cause lies in the future." There is no better way to put that straight. That's what I meant earlier when mentioning images of the future: You develop them out of the future. Anticipation turns out to be a core competence, a hot and pricky topic. And I don't mean that only with regard to the market in which participants just want to take part in the next big thing.

The issue goes deeper, for instance to latest research within "converging technologies", speaking of bio-, nano-, information- and cognitive sciences. Life sciences show us that anticipation is the relevant factor within organic systems. Interest for designers has arisen among Synthetic Biologists and offer them to contribute to the design of "bio bricks". As a result e.g. skin can be printed. We arrive in a field that sounds like science fiction, but is reality today. I therefore believe that questions concerning the future should not be dealt with by using recipes of the past. The classical formulation by Herbert Simon is: "The proper science for the study of man is the science of design". Today the formula is: "Life Science = Design".

Can design measure up to such an all-embracing dimension?

In the present state I would tend to negate, but science by itself can't either. Design at least works on the borders, as it is interested in form. Phrases like the book title "The Design of Material, Organism and Minds" implicate that in this case the hitherto existing limits of design have been exceeded in thought and action. But this is not classical design taught at art academies. Lots of young designers dropped back to the level of applied arts, partly because of the empowerment through digital tools. Some consider themselves to be advanced as users of advanced technology, while they miss out on the real deal: its critical development.

What is now needed is very well informed people, who can deal with aesthetic and cognitive, symmetric, technical and economic aspects in an integrative way. And who are capable of formulations that find open ears within management levels. Design is in a good position to face up to the people here, as imaginativeness, a sense for possibilities, as well as assertiveness have been trained here ever since. But if we don't manage to deal with these issues, others will. The demand is there and a global creative and critical intelligence finds new ways to get involved. Nobody is waiting for

The Betahaus in Berlin serves as a fine example. Soon after they started with a co-working concept they noticed that not only computer infrastructure should be offered, but work shops were needed. Now they have the "Open Design City" where models and prototypes are built. The scene resembles a vivid market place where everyone works on his project and can be observed while doing so.

Exchange and knowledge transfer are the result. Coworking turns to co-learning. Flusser predicted the future of workshops very similar 20 years ago.

This kind of model upsets the sole representation of universities and academies. A plurality of design approaches, types of knowledge and ways of thought are not only demanded, but already practiced. We call this

the "cognitive diversity" and it finds its expression in the diversity of organizational forms. The old university constitutes itself as universitas in the sense of community. And she would be well advised to absorb the new variety as a new kind of Studium fundamentale. At Stanford, they seem to have understood this quite well and placed the Design School in the center of the campus.

But these are precisely the Design Thinkers we just spoke of.

Well, I do believe that many things practiced there are right. But one must not get stuck, but instead must extend this manner into professional designing practice. This includes an historic and systematic anchoring. The term Design dates back to the 1980s. Worrin-

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ger described a "thinking sensuality" much earlier and Wertheimer analyzed "productive thinking". Now it comes to connecting the asserted characteristics of design thinking to scientific research on the one hand, and on the other hand to urging questions of organizations and corporations of the Next Society. In the scientific field research is practiced in huge projects like "Wissen im Entwurf" ("Knowledge in the making") at the Max Planck Institute for the History of Science in Berlin. But until today designers do not take part.

Why not?

Work is done here in a rather historical and analytical way while design is oriented anticipating and synthetic. So we wouldn't be doing the same thing, but for this reason could form a perfect and necessary complement. But design to a large extent takes place unconceptional and does not follow the rules of discourse. This is why we have a difficult position facing science. But the designer too is sceptic towards theories of design as no sufficient proof is given for a causality to design success. You might have a great theory but the Designs are worthless or the theory is

weak but the Designs are superb. This is why no scientific design can exist that is complete, explicit and unfailingly leads to optimal results. But of course a form of science can exist that has the phenomenon of design as an object of research, just as it is being dealt with in the fine arts and musicology. The institutional basics have been provided in the meantime and we are taking efforts to anchor design as an original epistemologic field in the research work. The highest obstacle is formed by the core of design namely working beyond the hitherto established categories of the formation and application of cognition. But it is precisely this quality that must not be dissolved towards technical and social sciences as well as humanities. This is why accordant discussions are to be led with the scientific community and their supportive structures, which are still organized in forms remembering of guilds.

Can't these sciences be utilized?

Well, there should be productive friction. Efforts were taken in the 1960ies and 70ies to place design in relation to scientific methods as a need for legitimation of the own operations was seen. Systems theory was combined with cybernetics and technical thinking with aesthetics at the Hochschule für Gestaltung in Ulm and later in Stuttgart with Max Bense. Unfortunately, it was not easy to discrete these approaches as many traditional tasks of design were not complex enough. When it's about designing a spoon and one starts counting peas things quickly turn ludicrous. The practitioners prevailed stating that things could be done easier.

Many designers who were at that time interested in theoretical work were discouraged. Today – and this is why I mentioned complexity and digitalization in the beginning - we play in another league. The demand for a causal relation within the own work has extensively risen. You don't get too far without a plausible theoretical approach and therefore the historical assets are of growing interest. Our students do their research and win a solid foundation instead of only reacting to the impositions of present requirements.

So what could be independent research topics, that can be handled only by design?

We differentiate research for design, about design and through design. Design is used as an original method

only in the last case. It is about widening the designers methodical set to different fields of application. These can be organizations. Not just a single product, but the complete portfolio or even the mission statement. The transformation of the labor situation in the 1970ies is a good example. As a result of the cybernetic discourse the wish was uttered to abolish all cubicals. A management concept was deduced from the theory which itself took influence on the architectural form of the office space, with communication isles, bridging areas and so on. Office space is materialized theory so to speak – that was design research avant la lettre.

Today the topic "cognitive architectures" is intensely debated, as questions concerning the design of future knowledge spaces arise. Library and museum, university and office developed as social and architectonic forms within certain boundary conditions. These are undergoing fundamental changes at the moment, as the physical world is being covered by an informational layer, buzzword: the internet of things. One possible research question therefore could be: How can a globalized network be brought into relation with localized architecture? Are new "semiotopes" developing here, signs at places or places created by signs? The practical effect of these developments can hardly be anticipated and affect the future of labour organization, public spaces or cultural memory. The planned Humboldt-Forum in the Berlin City Castle could offer chances to work on these topics in the form of a public workshop.

We hereby get back to the anticipation that is so hard to argument in a scientific way.

Precisely. Anticipation describes the paradox of research, whether supposed to be plausible in an scientific or entrepreneurial way. Its rather hard to convince an investor by stating: I don't know exactly what I'm looking for, but I suspect that my search might be fruitful. So one make up a strategic reasonable narration to satisfy the service. But one must not be con-

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fused and believe the own story! Instead it is important for self-control to trust in anticipation and not to be driven by the past. You need designers to steer in this direction by aesthetics. They have the capability of articulating issues that are not clearly illustrative. And I don't mean providing clarity, but working in a way providing an openness and connectivity enlarging the number of possibilities. This stands in contrast to scientific rites operating within the logic of connectivity and seeking for immunization. The designer rather strives towards infection, according to his self-image with a good idea, but - in some cases and of much more effectiveness - with a completely devious imagination...

Design as a contingence machine? Don't you think that with regard to the numerous possibilities of the computer society we rather suffer under a "too much" of options? Are you trying to escape from the frying pan into the fire?

No. I believe things are much more complicated. Let's take this iPhone as an example. It seems to me to be a classical case of enlarging complexity by reducing complexity. The iPhone offers exactly one solution to the wide range of possibilities of mobile communication. This is an extreme relief for the consumer who honors it appropriately. At the same time the number of offered apps is exploding leaving even the most optimistic expectations far behind. Besides, this businessmodel includes the service providers allowing Apple to gain an disproportionate value creation.

The key is allowing complexity by simplification. Designers speak of "simplexity". Hundreds of thousands of apps address any given aspect, but you feel safe in your "cognitive habitat". Herewith an inner perspective in accordance to the real user experience is implied. Early interface designers proceeded from tools to media, with which one was supposed to have interactions or dialogues. But this becomes invalid if one recognizes, that digital functions are interwoven into everyday life, into the habitual net. This is why the most advanced technology cannot be distinguished from magic.

When speaking about "digital formations" its all about such a comprehensive environment. The user should need nothing else and should stay in the Google-, Facebook- or Apple-World. The critics from Europe derive from this point, as certain ontological fundamentals developed here which have now been brought to the level of digitalization and have to be operationalized. This is why "cognitive architecture" is an up-todate topic for designers - but for pros, and not crashcourse design thinkers.

This seems comprehensible to me. If I didn't know better I would assume Steve Jobs to have read Niklas Luhmann. The growth of complexity by operational closure, so to say as an engine of differentiation. Whatever, who knows ...

Peter, with regards to the time, I would like to try to come to a conclusion and a prospect. When we look back on the discussed aspects: What personal conclusion do you draw? Or in other words: how do you cope with your work?

I do research through design because many current issues are more likely to be elaborated in a amore productive way than with other methods from science, technology or art. I offer these insights and methods to my colleagues as a consultant. Besides I do research on design, to get a better understanding of this fuzzy phenomenon. Irritation and fascination have not diminished over time - fortunately!

Is there any kind of a "role model" for the type of business-designer, design-innovator or innovationdesigner you propagate? How can we imagine such a person?

Designers often refer to Leonardo da Vinci as their founding father. And indeed, his reflections on design are still valid and up-to-date today. But in his era art and science were not as differentiated as they are today. So I rather think of the "project makers" in the 18th century, in spite of them having a rather questionable reputation. They were a wild mixture of adventurers and academics, entrepreneurs and charlatans, pioneers of the in between: Thinkers, doers, and role models in one person. I see this typus as highly topical – especially with the background of the latest boost of impetus driving the digital economy.

But how does one become a project maker? Are there any training services offered?

This cannot be a classical training, but rather an "enabling space" allowing emergence. We need a "third space", a space between the academy and the market and ideally conciliating between the two. So to say the best out of both worlds, with exactly this utopian

undertone. I just started setting something like that up with colleagues. From the academic world of selfdetermination, a freedom of content. And from the market place the dynamics and the consequent closeness to conversion. As nice as it is to sit in an academy with all these advantages: the urgent answer to the question of transmission - the back-link of innovation to routine - are often and everywhere adjured, but only scarcely fulfilled. And in contrast one has to see, that the market is blind towards these deeper research questions - in most cases at least.

Research and project development in such a third space seem to be the best strategy to me. This attracts companies immediately, as one can see at the Betahaus. The tired giants of the industrial age line up here and hope to get some inspiration. We want to develop something like that in a design specific way, with the goal of refining methodical sets of design and management tools in such a way, that they are fit for the future and can help building the "next society."

I really have the feeling at this point, that our paths might cross here. I am anxious ... Peter, I thank you for this stimulating conversation.