From Master-Design to Meta-Design

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I feel there is a need for a new Renaissance in thinking. The old Renaissance brought logic, analysis and judgement – often exercised through argument. The new Renaissance will be powered by design instead of judgement and by creativity instead of logical progression. (Edward de Bono in his weekly message on his homepage, 22nd May 2006)

Western thinking is based on the idea of progress. One of its tenets is that mankind is able to shape his future by technical means. At the beginning of the 21st century, however, the belief that rationality will bring about a better living for all has given way to scepticism. Economic activity and technical invention do no longer keep the promise of infinite progress towards betterment. Severe problems on the level of living conditions and ecological threats, however, urge us not to give up the idea of a possible influence on future development. For that reason, one has to look for other means how complex and super-complex systems can be managed, how they can be steered even if an overall control has proven impossible.

The *Design Synergy 21* project, a part of the British *Designing for the 21st Century Initiative*, ascribes a leading part to design for future development and regards it as essential, if not existential tool for dealing with complex phenomena. The following paper reflects upon the possibilities of *designing a design process* that might be a possible answer to the question of how we can exert influence on super-complex system. The first part of the paper will consider the basic approach to design in architecture and urban design, as it is taught at many educational institutions today. After questioning the suitability of this approach, the paper, in a second part, presents and discusses results of a DS 21 workshop on ´meta-design´ that took place in November 2005 in London.

What do we mean by ´design´?

"The close relationship between design and urbanity are to be at the center of this year's DESIGNMAI: the central theme is DESIGNCITY. Design is seen as an increasingly important factor in the location and structure of our urban landscape. In Berlin these links are extremely clear, last but not least therefore in January 2006 Berlin was appointed as "City of Design" by the UNESCO."

This is how one of the newest design events in Berlin, DESIGNMAI, inaugurated in 2003 by a group of designers, architects, journalists and others under the name of TRANSFORM-BERLIN e.V. (Footnote 1), advertises this year's opening (www.designmai.de). The concept of DESIGNMAI is to display objects and ideas that are innovative and go beyond a narrow definition of design. Thus the organizers referred to a complex idea of design when they first published their call for exhibitors:

"Design ist weit mehr als Warengestaltung. Designer sind Kulturschaffende im Kontext von Gesellschaft, Politik und Wissenschaft. Design prägt heute mit Sparten wie visueller Gestaltung, Grafik, Produktdesign, Mediendesign, environmental design große Bereiche unserer Gesellschaft, oft in Überschneidung mit Mode, Fotografie, Film, Musik, Architektur und Kunst." (Designmai Berlin 2006)

"Designing means far more than designing goods or trade marks. Designers create culture in the context of society, politics and science. Nowadays design – embracing visual arts, graphics, product design, media design, environmental design – coins large parts of society, often overlapping with fashion, photography, music, architecture or the arts." (Translation U.S.)

Design, obviously, has become a key issue of our *culture* and is no longer restricted to creating the *look* of objects in order to make them economically more profitable.
In a radical interpretation this view has several consequences:

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Firstly, the object of design has become much more complex. Design in this sense has become relevant to urbanity and other super-complex systems itself. The organizers of DESIGNMAI seem to have been aware of this connection when they arranged a supplementary series of lectures that deal with shelter architecture, design cities worldwide and urban design infrastructure.

Secondly, the designer not only has to take into account the context in which his or her product will be placed, but should be aware of the overall cultural context he works in. Thus society, politics and science as mentioned in the above definition come in.

Thirdly, the designer becomes part of a team embracing specialists of different fields who necessarily work together on a task that can no longer be mastered by a single person.

The idea behind DESIGNMAI and other initiatives of the kind is that design in the complex sense of the term is in need of further promotion, as classical institutions fall short of reacting to the actual needs of our time. This, I want to argue, is partly due to how education takes place in the fields of design, architecture, urban planning etc. Let us take a closer look on the concepts we often find at educational institutions in Germany and elsewhere.

The S-O-S-scheme or what is wrong with education

The way in which students of design, architecture or urban planning more than often are told to go about designing may be described as relying on their own intuition. Inspiration may be drawn from all kinds of areas, yet it is the architect or designer who is the master of the object. This entails that the object is complete – which is not the same as finished – when it is handed over to a recipient. In some cases, a users manual will (try to) make sure that the object will be used according to its original purpose, otherwise it will be regarded as *mis*used by people who do not live up to the design-standards the object fulfils.

This, however, is not the way, how complex objects of design, such as cities and the communities that live in them, work. The history of urban planning in the 20th century reveals the strong belief of its protagonists that designing cities also means designing society. Yet the products of this type of planning have in many respects proved complete failures (Footnote 2). This is, as I want to argue, partly due to the idea of a *mastermind* who possesses all necessary information for creating objects that do not only meet all the needs of future users, but also shape the people the design is made for.

(Un-) fortunately users or inhabitants have not behaved the way they should have, thus revealing that the idea of a subject (as starting point of self-responsible activity) creating an object for another subject (in the sense of being subjugated) does not work for designing urbanity. Drawing away from this Subject-Object-Subject-scheme means drawing away from an old concept of creativity that stems from the early 18th century, yet still dominates the education of architects or urban designers at many colleges and universities. Originally derived from religious inspiration this concept of a master's design is no longer apt to serve as guideline for designing super-complex systems as cities and their communities.

Genius in the dusk – why we need to become less inspired and more inspiring

´Ingenuity´ when taken at face value refers to a genius or spirit who in-spires the author of a piece of art. In 18th century thinking the idea of a genius is derived from an antique godlike creature, a kind of go-between between the holy and the human sphere. The genius as mental force mediating the holy inherits a much older religious concept of inspiration: the word of god, imbued on the evangelists, when writing the gospel. By the 19th century, when, for example, shown on terracotta reliefs by Schinkel at the Building Academy of Berlin (1836), the genius, bearing a torch as sign for the spirit he is to deliver, has become an allegoric figure. As such it stands for a feature of the human genius (*Genie*), which, in general understanding, is a person of creative talents who brings about outstanding ideas or pieces of art that are not derived from tradition.

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The notion of inspiration has changed from meaning an act between god(s) and humans to meaning an act of creation inside man. Inspiration enables the artist to *create*, i.e. to make pieces of art without reference to tradition or outer forces. It is exactly this idea of the un-connected, the leap beyond tradition, that is all ideas of ingenuity in common, whether we talk about the evangelist, the torch bearing genius or the artist from the 18th century onwards. In 18th century aesthetic theory art has incorporated the religious notion of a *creatio ex nihilo*, thus replacing the acting of god by human creativity. According to 19th century philosophy, art replaces religion in the spiritual evolution of mankind and the acting of the genius is defined as the goal of mankind.

Art and its derivatives as design or architecture still seem to function under the paradigm of ingenuity. More than often they still rely on a normative of juridical model of creativity that does not allow for participation or adaptability under changing conditions in the course of time. One of the basic restrictions of design or architecture is, that is has to be usable. In 18th century aesthetics the purest piece of art was characterized by not being made for any specific purpose at all. The disciplines we talk about here, however, are defined as *applied art*. In the following I will focus on architecture, as I mainly work in this field. I am sure, however, that lots of similar arguments can be found in the education of other creative disciplines and the public discourse on them. Listening to critiques at schools of architecture and other creative disciplines will bring to the fore lots of arguments that are based on the notion of genial creativity. In the following, I will additionally look at some arguments of architectural criticism that frequently reoccur when high quality architecture is discussed.

Usability

Looking at usability as an important aspect of architecture, we will see how much our thinking is still influenced by the notion that applied art is only second best. Architects try to gentrify their work in different ways. In the discourse on star-architecture today the idea of a building properly fulfilling its task seems to be less valuable than a kind of symbolic quality, representing a guiding concept behind the design. An allusion (or illusion) of transparency, for instance, may override any functional quality. A noisy library cannot be called such, but has to be solely admired for its materialization of continuous space.

Noisiness is referred to by only one of thirteen critics, when the concept of open teamwork and its effect upon acoustics is discussed in the architecture magazine Bauwelt: "Arbeiten in geschlossenen Räumen wurde generell zugunsten des Arbeitens in Gruppen zurückgestellt; im Hinblick auf Teamarbeit soll man sich an diesen Tischen auch unterhalten können. […] Man darf gespannt sein, welche Erfahrungen man mit dieser Offenheit machen wird und wo sich zwischen Lärmbelästigung und Kommunikationsdichte das Geräuschniveau einpegeln wird." "In general, working in separate rooms was postponed favouring working in groups; for teamwork talking at the tables shall be allowed. […] It will be interesting to see in which way this openness will be experienced and what the level of noise will be, somewhere between noisy inconvenience and dense communication." (Footnote 3)
All other critiques do not even mention acoustics: silence is not seen as important feature for workspace. In general the – in many respects merited – hymn on the building reads as follows: "Contemporary, yet not familiar: the Cottbus library, changing its outline from every viewpoint in the city and forming an interior continuity of multi-height spaces which appear and disappear when we wander through the labyrinth of shelves, is a strange object with a precisely interpolated outline – designed to escape its own image." (Footnote 4)

Criticism, it seems, is restricted to the concepts promoted by the architects, a user's perspective does not come in. This shows that the feature of being usable is still seen as disqualifying the object rather than being an important ingredient of architectural design. It is left to daily newspapers to pick up this point, as the Berliner Zeitung did in an article on the new Philological Library of the Free University of Berlin, designed by Sir Norman Foster, with the head-*line: "Schön laut – Studenten loben die Ausstattung der neuen FU-Bibliothek und ärgern sich über den Lärm."* "Nice and noisy – students praise the equipment of the new FU-library and are annoyed at the noise." (Footnote 5).

Context and Tradition

The quality of architecture is often judged the better the more it negates the context. The above given quotation from the English summary of an article on the IKMZ at Cottbus points out that the building is *not familiar* and *a strange object*. This characteristic is not meant as mere description but as outstanding quality of the building. The full text in German is more outspoken on this point: *"Das IKMZ ist eine Weigerung, den anderen Bauten der Stadt gleich zu sein, eine präzise interpolierte Figur und gleichzeitig ein Entweichen vor dem eigenen Bild, indem es in keinem Licht und von keiner Seite her gleich aussieht."* "The IKMZ refuses to be similar to the other buildings of the city, it is a precise interpolated outline and, at the same time, escapes its own image, as it does never look the same when the light or the point of view changes." (Footnote 6). The quality of the ephemeral is set against context and tradition and as such defined as *contemporary*.

The above-mentioned text is one example out of many: the overall number of critiques of recent architecture uses this type of argument. Referring to the context seems to tear the building down, making it less valuable. This entails that the artist creates his or her work ´out of the blue´, neither referring to tradition nor to any living context in a positive sense. The piece of art as something outstanding, absolutely new and unheard of is delivered to mankind as erratic object.

In contrast to how art was judged in previous centuries, it is seen as lack of creativity to copy from masterpieces. That this concept of *ingenuity* has recently been challenged shows the discussion of the notion of *adaptation/transformation* as a valuable criterion of creativity in the Swiss architecture journal *werk, bauen + wohnen*. "The appropriation/transformation of tradition is the actual form of artistic invention, writes art historian Werner Busch in ´Das sentimentalische Bild´ (´The Sentimentalic Picture´, Munich, Beck 1993). Beyond dispute, adaptation is a form of invention: Absorbing a type or interlacing an analogy are newly found thoughts every time. They originate from tradition in the words widest sense, the pool of that known unto us. The appropriation/transformation is not a quotation or direct translation. Much more, it contains a shift and a treatment. Whoever appropriates a thought transforms it, hence lending is a new imprint. The spread of possible transfers into the own sphere of influence reaches form a subtly graded new interpretation, all the way to a productive misunderstanding." (Footnote 7)

Despite the reference to the art historian Werner Busch, the notion of adaptability or transformation is far from being common sense in the world of architecture (possibly lagging behind the development in the arts themselves). The way how star-architecture is discussed precludes that the architect will adhere to a notion of *small creativity* as defined by Hans Lenk in the same edition of the journal: "Clearly, appropriation and transformation have something to do with tradition or with accepted moments, ideas, metaphors, analogies or similar dependencies, thus with creativity and the creative combination of different elements. This, however, means that we are not talking about the brilliant invention of whole sets of rules or entirely new basic inspirations, and thus not about what Immanuel Kant referred to as the ingenious artist's moment (or re-creating the ´rules´ of whole spheres), but about the ´small creativity´ of combinatory discoveries, transformation, reorganisations of the already existing […]." (Footnote 8)

Participation

The ´normal´ architect abhors scenarios of participation, fearing unqualified influence on his or her work by non-specialists. The field of participation has therefore been left to professional mediators and is not seen as a task for architects themselves. On the contrary, the architect may speak through his work only; he is not forced to present his or her ideas understandably. Interpreters are to fill the gap between the architect and the public.

In consequence, curricula of architecture schools do not incorporate courses on participation or mediation. Many initiatives as the "Initiative Architektur und Baukultur" ("Initiative Architecture and Building Culture") of the German Federal Ministry for Traffic, Building and Housing or particular courses by architects´ associations on ´how to deal with building owners´ show, however, the urgent need for further interaction between professionals and non-professionals. Since 2005 a master of science is offered in the field of *architecture mediation* at the Technical University of Brandenburg,

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Cottbus, reflecting a lack of participatory and mediation skills of the ongoing architects and/or urban planners.

If it is our goal to enact influence on how our future is to be shaped, the notion of urban systems or even architecture and objects of design as pieces of genius-breaded pieces of art falls short. Although still in action all-over, this notion does not allow for the necessary complexity, flexibility or adaptability. It even encumbers the finding of more appropriate solutions. When questions of sustainability or synergy come in the genius-artist may no longer be the master of the play. It is not likely that a single person is able to master the complexity through an act of intuition or inspiration. Instead of waiting for inspiration from other spheres, *small creativity* as Hans Lenk calls it, should be the starting point for interaction with people in charge of technical, administrative or other aspects of design – and, of course with the users-to-be. Instead of *being inspired* designers and architects should become *inspiring* to the other participants of the process.

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From master-design to meta-design – fluid geometries

The ongoing influence of the paradigm of genial art makes it necessary to open up the field of discussion. DESIGNMAI is an example how the range of designed objects, the range of who is a designer as well as the range of the task is enlarged through the initiative of a few people. Yet to rethink the whole complex scheme means to take the discussion another step further.

Once, every part of a *design process begins to fluctuate*, a new concept of designing has to be found. It is necessary to move from the idea of ´master-design´ towards ´meta-design´. Elisa Giaccardi defines meta-design in the following way: *"Metadesign must allow a social mode of existence that is flexible and based on mutual processes of affecting and being affected, rather than on a juridical model. According to Thacker, metadesign represents a critical and creative investigation into the possibilities of transformation of human beings and culture. […] Metadesign entails a shift from normative planning ("how things ought to be") to the humanistic enterprise of seeding ("how things might be"). It focuses therefore on the design of initial conditions (or seeds) with the aim of provoking and supporting more sustainable forms of production and sociability. As such, metadesign is a higher order design in which participation and emergence are a critical component to nourish and evolve the initial conditions set by the metadesigner(s)."* (Footnote 9)

Once the *sphere of design is enlarged*, we no longer deal with objects in the circulation of goods, but rather with systems in constant flow: it is their form and process of development that is to be shaped. Meta-Design is dealing with super-complex systems. The field of design encompasses urban strategies or community living and all that is necessary for it rather than pieces of architecture or designed objects as single or isolated items. Yet there are other fields of meta-design such as medicine or economical exchange. Due to a lack of experience of the author in these fields they are not considered here. (See papers of Vadim Kvitash and Richard Douthwaite).

Once design becomes *a process handled by a group* of specialists and non-specialists, particular communication skills are needed in order to bring about a productive co-creational setting that does not give way to a hierarchical structure. Different methods have been developed and are commonly used for group settings for this purpose. One of them is to map design processes and strategies and to work with these visualizations in design groups. Doing so means more than using a helpful tool in order to integrate the sense of vision into an abstract process. The geometrical structure of the mapping allows seeing certain features of the design process itself. Thus the simple S-O-S scheme, given above, resembles a communicational setting often cited as sender – message – receiver scheme in basic communication theory. As has been argued, every part of this three partite, one-dimensional scheme has been challenged by the notion of meta-design. New geometries have to be found for mapping complex design processes.

At the Design Synergy 21 meeting at the ICA in London in November 2005, the work groups were divided according to a three-dimensional tetrahedral scheme also used by John Wood for teaching purposes in his design classes at Goldsmith's College. The tetrahedron thereby serves as model for how experts and non-professionals may work together in the design process (Footnote 10). The goal of the ICA-event was to clarify the concept of meta-design and to evaluate some three- or even four-dimensional tools that offer an alternative to the language of 'subject-object' relations. Practicing a possible communication scheme of meta-design, the workshop became self-referential.

In order to integrate time as forth dimension of the design process, Elisa Giaccardi broadens the concept towards a *Multidimensional design space (MDS)*. Time comes in double fold as the time the design process itself takes, on the one hand, and use time, on the other hand. From the concept of incomplete design products it is clear that both times overlap, as readjustments may become necessary during use time. There are three levels of *MDS*, which all embrace design time as well as use time. The three levels or planes encompass anticipatory techniques and methods, participatory strategies during design and use time and, finally, a particular setting that may bring about co-creation.

"Such multidimensional design space can be summarized as follows:

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1) Design by Anticipation
This plane of design entails a new generation of anticipatory methods and techniques. By anticipating needs and potential changes, metadesigners play an important role in setting the enabling conditions that will allow participants to engage in the design activity. The enabling conditions set at this level by the metadesigner(s) will allow participants to respond to the mismatch between what can be foreseen at design time and what emerges at use time. An instance of design by anticipation (in the sense intended here) is, for example, the design of end-user modifiability components (i.e. software components that can be easily modified and adapted) and in general the design of malleable and modifiable structures.

2) Design by/for Participation
This plane of design entails not only participatory methods and techniques for engaging at design time the user community in the initial setting of the participative system, but also participative support mechanisms for encouraging participants' engagement and design activities at use time. At this level, metadesigners and participants play a more fluid role in the design activity. An instance of design for participation is, for example, the design of mechanisms in support of reflective activities. These mechanisms can be either computational (i.e. embedded in a software system) or social (i.e. embedded in media for social interaction).

3) Design for Emergence
This plane of design is concerned with supporting participants in constructing personally and socially meaningful artifacts and activities and opening up the system to creative and improvisational uses. It entails affective methods and techniques in support of the sensorial and emotional activities that are responsible for an active and effective relationship among participants and can eventually sustain co-creation. An instance of design for emergence (in the sense intended here) is, for example, regulating the interplay between the opportunities for action provided by the system and the activities produced by participants in order to allow the emergence of collective structures of interpretation (i.e. visual structures or oral narratives)." (Footnote 11)

picture from: http://www.attainable-utopias.org/tiki/tiki-index.php?page=TetrahedralLogic

The tetrahedron may be seen as a setting for *"the emergence of collective structures of interpretation"*. Being composed of four corners that are all inter-related, it stands for the complexity of teamwork that undergoes various changes during the process of designing and the process of using the product of design. The tetrahedron is the only regular geometrical figure in three-dimensional space that allows for direct interrelation between all its corners. This geometrical feature lends plausibility to the analogy with design-processes.

Moments of synergy
At the design workshop at the ICA the four instances were interpreted as *new knowing*, *envisioning*, *pushing and doing* and *exchanging*. The four activities are not seen as following one-another, but as different aspects of the design-process that are intertwined. They were interpreted as interplay between the four groups that represent specific roles. Each conference delegate was asked to explore synergy via an exercise that looks at what issues and skills might be required for developing a cross-disciplinary metadesign methodology. Synergy may be understood as "the behavior of whole systems
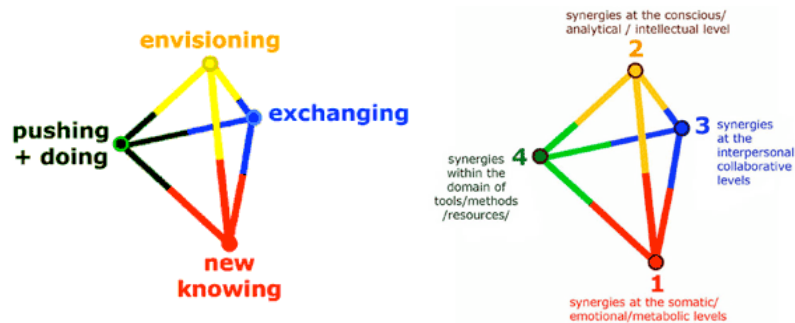
unpredicted by the behavior of their parts taken separately"(Footnote 12). The systems in question here, were design teams and their work, the task at the workshop, as said before, being self-referential. When talking about design processes, John Wood speaks of *second order synergies*, which he defines as follows: "Synergies with a high level of adaptability and that include information-sharing, both within and beyond of the system, and whose distinctive features are well beyond useful prediction from observable parameters. (e.g. design teams who are able to adapt to new conditions, and to define, redefine and manage their own agenda, identity, coherence, and effectiveness within this context)" (Footnote 13). At the workshop conditions for synergy it were to be sought at the *somatic, emotional or metabolic levels* (new knowing), at the *conscious, intellectual and analytical level*s (envisioning*), at the *interpersonal and collaborative levels* (exchanging) and within the domain of *tools, methods and resources* (pushing and doing)*.

pictures from: http://www.attainable-utopias.org/tiki/tiki-index.php?page=ICA-Conference2005

At the workshop every group consisted of specialists and lay-people of different background. These groups were supposed to identify different moments of synergy they thought specific to meta-design. For interaction each group was asked to point out four synergetic features of meta-design as seen from the group's perspective. All features were then combined to form a *synergy wheel*, a two-dimensional figure that also allows for interrelation between all items. Accordingly, manifold relations were made visible on the wheel. It consisted of the following items that will be further explained under the heading of each group.

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Thinking about relations inside the wheel

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In the next step, the groups were asked to interpret their findings and to name the items they thought necessary for realization of the task of the group. Thereby, again, several geometrical figures were used to communicate ideas.

New knowing

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The group dealing with *new knowing* also used the tetrahedron, naming four conditions for how synergetic effects in design processes may be reached at the *somatic, emotional* or *metabolic levels*. The conditions deal with social interaction: for each individual, partaking in the process, *openness* is a necessary state of mind (and body). Openness entails the willingness for self-exploration and self-discovery. *Inclusion* can be seen as capability of an individual or a group to adapt to a larger context. It is a necessary ingredient when people come together for action. Once a group of common interests has been formed, the capability for *negotiation* with other groups and their specific interests becomes vital. All of these can only take place, when the social (and environmental) *context*, by some of the *New Knowing* group called *garden*, is reflected. The tetrahedral structure expresses that all of these conditions have to be present for fruitful interaction and synergetic effects; there is no hierarchy between them. In order to continue with this work, a toolbox for conceptualizing social practices was suggested.

inclusion

openness   negotiation

context / garden

pictures from: www.attainable-utopias.org/tiki/tiki-index.php?page=NewKnowing

Envisioning

Looking for synergies at the *conscious, intellectual and analytical levels* the *envisioning*-group considered the need for *sustainable transience*. This paradoxical term is meant as call for a new way of looking at things, a call for discerning between the *preserved* or *changed*, the *transient* or *permanent*, the *sustainable* or *embedded*. A more accurate reference to the existing is utilized for questioning ´given development´ and *identifying communalities* with new points of reference. *Analyzing hidden features* and the search for *innovative and appropriate (re)mapping* are crucial to this approach. In summary, one has to look for patterns of different reorganisation of what seems to be already known.

The group listed thing-to-do, suggesting
   - a series of case studies,
   - research as self-reflexive process,
   - analysis of hidden data and
   - mapping of set parameters, always referring to the existing.

The question of how contact may be established for new *communalities* was deepened: how is it possible to create a *cultural climate* that enables a teamwork where insiders work as *creators*, developers function as *translators*, outsiders bring about the necessary *diffusion* and evaluators help to find *conclusions*? How can a *community consciousness* be created, for instance by *contagious values*? For doing so, it seems necessary to use special communication tools and to complement words with images, concepts with concreteness (Footnote 14).

Exchanging

Crucial to exchanging ideas is how the process of communication itself is shaped. The purpose of communication is to balance internal and external conditions. How do synergies arise at the *interpersonal and collaborative levels*? Firstly, communication was defined as *open process*: it is part of the designing process itself. The exchanging-group made out different communication levels. At *micro-level* wisdom, as combination of intuition and knowledge, is seen as necessary ingredient to steer communication processes. At *macro-level* design has to be communicated to outsiders. For a process of *meta-communication*, i.e. further proliferation of new ideas and strategies, it seems necessary to find short cuts for pioneer projects in order to speed up their evolutionary process.

In order to visualize the different levels of communication and its participants, the group created a *communication wheel* that is supposed to be in constant action.

The wheel shows that many people – such as dreamers, doers, users-to-be, users-in-action or proliferators etc. – are to communicate in the field of design on different levels, forming a flexible, flowing, organic, and dynamic group in the design process. The spinning wheel stands for the dynamic of the process and its self-informing structure.

Communication may be seen as a mode of thinking or of consciousness. In this sense, every participant would be a communicator. As this is just an ideal assumption specialists for communication take part in many design processes. The *exchanging*-group worked out principles for a good performance of a mediator or communicator and set up a toolbox, containing the following items:

   1. The language used has to be a common language. This enables lay-people to participate and is a condition for ´pluri-loug´ or ´multi-loug´ instead of monologues by specialists.

   2. The role of the mediator may be defined in different ways as facilitator, observer, listener, distiller of information, catalyst or even story-teller or persuader.

   3. Responsibility, consciousness, looking into the mirror and self-reflectivity are necessary skills. As top principles the so-called ´ity-principles´ were mentioned, embracing humility, equity, sensitivity, responsibility, trusticity and authenticity.

Another picture found for communication as mode of thinking is the amoeba, which is seen as conscious membrane, expanding and contracting, thereby adapting to different situations. Inside the amoeba are the means or challenges for non-imposing communication. There is osmotic motion between the inside and the outside.
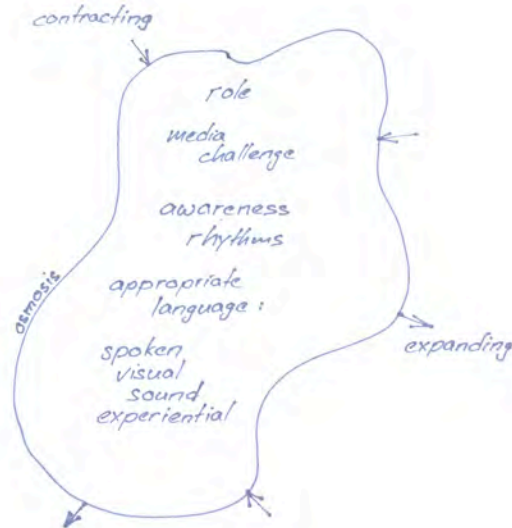
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Pushing and doing

The pushing-and-doing-group named as most important for synergetic effects in meta-design the need for an organic, bottom-up approach leading to *non-exclusive and dynamic communities*. Pre-condition for this approach is *understanding the ground*, which is defined as social and environmental context, networks and flows. This, however, can only take place, when the *climate,* a set of values and principles informing the process – as for example: re-use, recycling, low energy etc. – has been defined and agreed upon. In order to trigger a process of designing, it is necessary *to create seeds*, i.e. initial conditions for connectivity and interaction – as for example a community land trust.

The overall process is shown in a zigzag-shaped diagram:
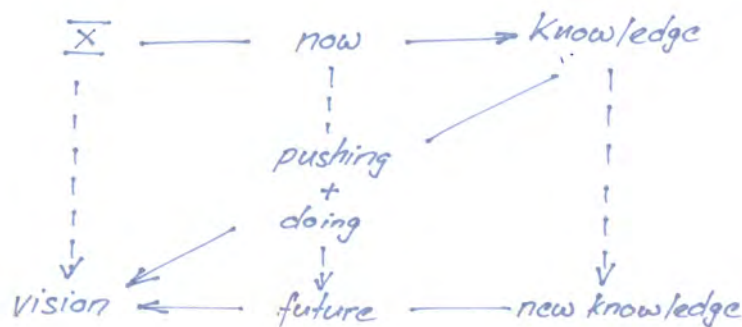
A vision or idea motivates a group X of people to trigger a project. The seeds for interaction have been sown: X as non-exclusive, dynamic community has agreed upon a set of values (climate) underlying the project and works on understanding the conditions for action (ground). Present knowledge is transformed into new knowledge with its intuitive and emotional qualities, which again influences the vision. The activity of pushing and doing is at the centre of the whole process in the course of its development (Footnote 15). A bottom-up approach leading to non-exclusive and dynamic communities, creating seeds, defining the climate and understanding the ground are seen as necessary conditions for the process.

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Interpretation

From the tetrahedron to spinning wheels, osmotic amoeba or zigzag-shaped diagrams – all geometric representations were meant to pull away from one-dimensional concepts of design processes. Every type of diagram or geometric figure expresses a kind of dynamic and self-informing process that undergoes different forms of adjustment according to the working of its parts. Geometry helps to draw away from hierarchical thinking and reflects the working of complex systems. The number of participants, the undirected overall flows of information, self-adjustment during the process of designing and usage are reflected by the four dimensions the geometrical figures stand for, when they are thought of as moving. Geometry has become fluid.

Turning back to the problem of designing super-complex systems some conclusions can be drawn from the different suggestions made on the Design Synergy 21 workshop. 4D-geometry serves as tool for describing a new setting: There is no longer a master of design, but a group consisting of members with different backgrounds, skills and tasks. The group, however, has to work on common ground and to define an abstract goal to head for. How this goal may be reached and what means or tools should be used for doing so is part of the process of ´designing´. New knowing named the ideal conditions for the state of mind of individuals and groups to take part in design processes. Envisioning dealt with means to re-arrange the already known in a creative way in order to achieve a common goal and thought about how such a group of re-arrangers may be created. Exchanging dealt with communication tools needed in the whole process and what groups of people are to be involved. Finally the pushing and doing group tried to figure out how the aspects of reference to the existing (ground), defining the common tenets (climate), taking action (creating seeds) and finding the right people (non-exclusive, dynamic communities) work together. The concept of *ingenuity* is replaced by a concept of *fluctuation* that means a self-informing process of a group gathered around a common idea. It implies a re-evaluation of context, integrates design and use time, and applies techniques such as hidden data mapping or special communication skills to facilitate teamwork.

Approach to reality – best practices of "design democracy"

What does *fluctuation* imply? Teamwork, one might argue, has already been adopted by design studios and architecture firms and has become a normal feature of design processes. Meta-design, however, does not just mean that several people are involved in the process; it heads for strategies of collective decision-making that are not common practice in the field of design. As Elisa Giaccardi put it, meta-design deals with "collective structures of interpretation". A group of people working together on a common goal is heterogeneous and its members have to learn how to express their needs, how to make themselves heard *and* how to listen to the others. Anticipatory imagination will be needed as well as the willingness to concentrate on the common goal and to handle conflicting ideas and interests not in the way of a foul compromise but as productive challenge.

It is the task of meta-designers to put into action participatory strategies and to create settings that allow for collective decision-making. They function as facilitators or Socratic midwives for the birth of collective design. Meta-designers also function within groups of action as specialists for certain features of the product (its aesthetic quality or its life cycle, for instance) and apply anticipatory techniques in order to gain knowledge on the possible sustainability or adaptability of the design in the long run.

The follow-up event of the Design Synergy 21-group in March 2006 at the Design Council, London, simulated a process of meta-design for urban development on a real site. The corners of the tetrahedron now stood for ´awkward conditions´ in the process. An octagon showed the ´real participants´ of housing projects.
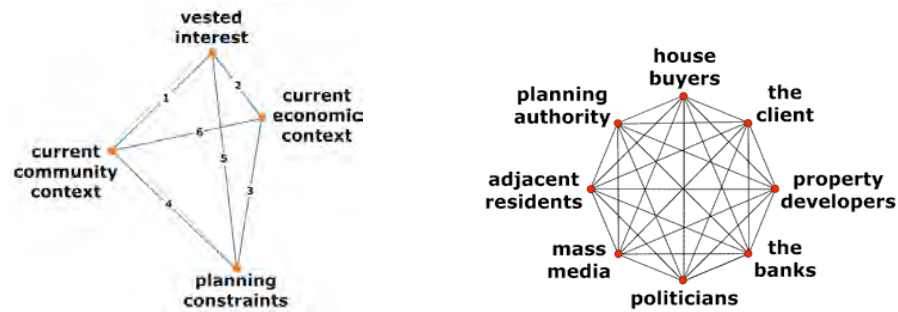
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After all, meta-design will have to be proven in application. The abstract levels only serve as propaedeuticum/preparatory school for work in action. Democratic or collective design practices will be the proof of the pudding.

Footnotes

FN 1 DESIGNMAI is organized by TRANSFORM-BERLIN e.V. This year's event took place 18th -21st May 1006 in Berlin. "For if design is construed as the design of objects, buildings and also processes in general, then the city has always been a design. Its genesis can be considered as the design of social processes in the development of a society, as was reflected upon the first municipal orders and other documents that defined the social (and thus often the spatial) structure of the city. However, is can also be grasped as the design of spatial structures, starting with the first walled cities, protected by drawbridges and a concentric structure, through to the sprawl of a metropolitan area such as Los Angeles. The meta-design of a city is a kind of blueprint for its internal and external nature, and in it intentional und unintentional aspects blend to form an unmistakable spatial and social organism", Mateo Kries writes in his article *On the relationship between design and the city* in the catalogue (Transform Berlin e.V. (Ed.): DESIGNCITY – Design for Urban Space and the Design City Discussion, Berlin: Die Gestalten Verlag, 2006, p. 21-24)

FN 2 On the level of urban design, Caroline L. Davey, Andrew B. Wootton, Chris T. Boyko, and Rachel Cooper diagnose *"a change in ideology and practice. The pursuit of a more socially just and stable society was the founding ideology of town planning practice. Industrialisation and urban squalor was closely linked to the social problems. Urban planners and designers (mistakenly) believed that quality of life was simply a product of a good environment (1850s -1950s). It was only in the 1960s that it was recognised that the planning system had failed to address underlying social problems of urban life and had unfairly disadvantaged particular groups. In the 1970s, the planning system embraced the concept of equality, but found it difficult to put into practice. In the 1980s, notions of equality gave way to the concerns about efficiency, and achieving social ends became more difficult."* Caroline Davey: From Sustainability to Socially Responsible Design, 2005, www.attainable-utopias.org/tiki/tiki-index.php?page=SynergyToolsDraft

FN 3 Gerrit Confurius: Glanz-Rosé und Wellenform – Neubau der Universitätsbibliothek in Cottbus, Bauwelt 3 (2005), p. 12; translation U.S. The list of critiques is given below.

FN 4 Sabine von Fischer: *Lesbare Wolke – Legible cloud*, werk, bauen + wohnen, 4 (2005), p. 13, English Summary

FN 5 Eva Dorothée Schmid: *Schön laut*, Berliner Zeitung,16th Sept. 2005; translation U.S.

FN 6 Sabine von Fischer: *Lesbare Wolke – Legible cloud*, werk, bauen + wohnen, 4 (2005), p. 11; translation U.S. In other critiques not being connected is interpreted as reaction to the context: "Das IKMZ ist äußerlich ein ´deterritorialisiertes Objekt´, das auf disintegrative Tendenzen der Umgebung antwortet." – "From the outside the IKMZ is a ´de-territorialized object´, that reacts to disintegrative tendencies in the surroundings." (Gerrit Confurius: *Glanz-Rosé und Wellenform – Neubau der Universitätsbibliothek in Cottbus*, Bauwelt 3 (2005), p. 12; translation U.S.)
Gunnar Tausch argues along the same line in his Baumeister-article: "Es wundert daher nicht, dass Herzog & de Meuron ein Gebäude entworfen haben, das sich selbst genug ist. Ihr skulpturaler Entwurfsansatz, einen Solitär mitten auf das Grundstück zu stellen, erklärt sich aus dem Mangel an städtischen Raumkanten in Cottbus."
„Therefore it is not surprising at all that Herzog & de Meuron designed a building that suffices itself. Their

sculptural approach to design, placing a solitaire in the middle of the lot, is due to the lack of urban spatial lines in Cottbus." *(Universitätsbibliothek in Cottbus, Herzog & de Meuron*, Baumeister 3 (2005), p. 71; translation U.S.) The form of the amoeba is interpreted as contextual by Hubertus Adam in his article *Gestalt und Gestaltlosigkeit*, archithese 2 (2005), p. 70: „[Das Volumen] distanziert sich von der ruppigen Umgebung [...], aber es reagiert eben mit seinen vier konvexen Ausbauchungen und seinen vier konkaven Einschnürungen auch auf die vorgefundene Situation." – „[The volume] keeps distance to the rough surroundings [...], with its four convex belly-bulges and its four concave tie-ups it reacts, even though, to the situation as it is found."; translation U.S.

FN 7 *Editorial*, werk, bauen + wohnen 10 (2005), p. 2

FN 8 Hans Lenk: *Kreativität und Anverwandlung – Creativity and Adaptation*, werk, bauen + wohnen 10 (2005), p. 44-48; quotation p. 47

FN 9 Elisa Giaccardi, Sowing the Seeds for Co-Creation in the Multidimensional Space of Meta-Design, 2005, www.attainable-utopias.org/tiki/tiki-index.php?page=SynergyToolsDraft

FN 10 Elisa Giaccardi, Sowing the Seeds for Co-Creation in the Multidimensional Space of Meta-Design, 2005, www.attainable-utopias.org/tiki/tiki-index.php?page=SynergyToolsDraft

FN 11 www.attainable-utopias.org/tiki/tiki-index.php?page=TetrahedralLogic

FN 12 www.attainable-utopias.org/tiki/tiki-index.php?page=Synergy

FN 13 www.attainable-utopias.org/tiki/tiki-index.php?page=Synergy

FN 14 See list of items on: www.attainable-utopias.org/tiki/tiki-index.php?page=ICA-Conference2005

FN 15 The pushing and doing group also worked on a concreter level, posing the question: What does it mean to develop a scheme of realization for a utopian idea, such as a sustainable urban community? First it seems necessary to gather the right people. Instead of looking for idealists with, ideally, infinite means to realize their dreams, the group sought for means to find people, interested in a higher living quality and willing to invest in an idea that is not selfless in the sense of thriving for a better world but is situated in an existing context. Moving into other people's vacuum and apathy or pre-selling the utopian concepts was mentioned as well as social engineering. To find a place where ideas may be realized was the second point the group focused upon. Possible means of action comprised squatting, as an instance of guerrilla warfare, stepping into someone's decline and campaigning with local planning committees. Bill Dunster summarized the discussion in a paper. See Bill Dunster: Feedback from the 'Pushing and Doing' Group Discussion, 2005, www.attainable-utopias.org/tiki/tiki-index.php?page=SynergyToolsDraft

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Karen Blincoe: Is Metadesign the Solution?

Caroline Davey: From Sustainability to Socially Responsible Design

Richard Douthwaite: Increasing Global Synergy by Re-Designing the Economic System

Bill Dunster: Feedback from the 'Pushing and Doing' Group Discussion

Elisa Giaccardi: Sowing the Seeds for Co-Creation in the Multidimensional Space of Meta-Design

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