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#### Colophon
During the Christmas break, I was reading the book 'Architecture & Participation' by Peter Blundell Jones, Doina Petrescu and Jeremy Till (2005). Besides the interesting content of this book, I got inspired by the introduction and it occurred to me that much of the message could be transferred to our own Architectural Design and Research developments.

RTS (Research Training Sessions) are clearly part of a change process in which research by design is being established as a core activity of our School. To accomplish this transformation, we do not present a standard version of research by design: we even contest that at the moment a standard, unique version of research by design could even be possible. The danger with a normative approach is that it sees the designer as standard, there to be subjected to common research methods. Instead, one has to accept the reality that with multiple designers-researchers there will naturally and of necessity be multiple methods, approaches, desires, contexts, forms and outputs. This book once again covers a wide range of designers, researchers, situations and methods. This diversity is reflected in the different modes of presenting the research work, ranging from structured texts to illustrated essays to the recording of activities. These different contributions are consciously assembled in a mixed order in an attempt to have the different aspects always informing and interacting with one another.

We are astonished by the wide range and depth of the research which was undertaken during this period. The wide range of approaches and writing styles this year, ranging from the 'creative', personal, and philosophical, on the one hand, to the objective approach of the engineer, with its much more objective writing style is astonishing! The book is not intended as a primer. Rather, the contributions are meant to provide information on research in progress and to inspire future research practice in architecture. If Reflections 9 makes a small contribution to international research developments in architecture and design, it will have served its purpose. If it succeeds in provoking discussions on methods and focus, and in recording our undertakings, so much the better.

I want to use this opportunity to thank all the people involved in RTS for their energy and efforts. Tutors and participants together form a wonderful group and community, exploring the outer edges of architectural research. Furthermore, I want to thank all the administrative staff for their ongoing dedication to keeping the program running under optimum conditions.

Together with Reflections 3 and Reflections 7, this new issue now takes its place in the series as a valuable source of ideas and results. We expect it, as well, to have an impact on future student generations.

Finally, I hope you enjoy reading this book. We welcome any feedback or comments!

Prof. dr. Johan Verbeke
Head of Sint-Lucas School of Architecture
The many aspects of RTS
The scheme above is the result of an effort to collect the main issues related to organising, structuring and consistently developing RTS as a programme. It is clear that this does not have to be seen as something static. It was originally intended to facilitate the discussion during a meeting in April 2008. However, we believe it is interesting to share this scheme in Reflections 9, as it includes issues which may be interesting for the participants as well as for other organisations. Some aspects are still in development and, as such, are only indicative of possible directions that could be taken.
contributions
Gerard De Zeeuw
Gerard de Zeeuw studied at the Universities of Leyden, Rotterdam and Stanford (mathematics, statistics, econometrics, psychology). He did his Ph.D. at the University of Amsterdam (on a topic in the philosophy of research). His main work has been in the understanding of research methods as applied in the social sciences and as related to the use of their results. He is a retired professor of the University of Amsterdam (since 2001), and is director of the Center for Innovation and Cooperative Technology (in Amsterdam, NL) and of the Lincoln Research Centre (in Lincoln, UK). He now serves as professor of research of the University of Lincoln. He is the Director of the PhD programme of his Faculty, where he is responsible for about 60 PhD students (and supervises about 25). Some of his many publications may be found at (unfortunately not updated since 2001). The Journal of Systems Research published a Festschrift (it includes a paper by Johan Verbeke).

Rolf Hughes
Rolf Hughes, BA (Hons), MA (with Distinction), PhD., is Senior Professor in Research Design at the Sint-Lucas School of Architecture (Brussels, Belgium), Professor in Design Theory and Practice-Based Research at the Department of Interdisciplinary Studies, Konstfack University College of Arts, Crafts and Design, as well as Senior Researcher in Auto-Poiesis and Design at the Royal Institute of Technology (KTH), School of Architecture (Stockholm, Sweden). He holds the UK’s first Ph.D. in Creative and Critical Writing from the University of East Anglia (funded by the British Academy), and has successfully co-supervised a number of innovative and acclaimed PhD dissertations within architecture and design. He has organised a series of major interdisciplinary conferences on architecture, skill and practical philosophy and has taught and lectured internationally. To date, Hughes has co-edited four collections of interdisciplinary essays: The Book of Models: Essays on Ceremonies, Metaphor and Performance (Open University, UK: 1998, reprinted 2003), Hybrid Thought (Open University, UK: 2003), Architecture and Authorship (Black Dog Publishing, London, 2007), and Second Nature: Origins and Originality in Art, Science and New Media (currently under consideration). His current research interests include experience design (the design of time), the epistemology of practice, transdisciplinarity, and the poetics of critical writing. Hughes is a member of the board of AKAD (the Academy for Practice-Based Research in Architecture and Design) and a researcher in the following projects funded by the Swedish National Research Council: Architecture and its Mythologies; Auto-poiesis and Design; Authorship and Generative Strategies; and The Poetics of Critical Writing. In May 2008, Hughes was awarded funding by the Swedish Knowledge Foundation for a major research initiative Experience Design: The Future of Play, with Swedish toy company BRIO as industry partner. He is a widely published prose poet and his creative and critical work has most recently been exhibited at Lund Konsthallen and the Milliken Gallery in Stockholm.
'Batch 08' - **Session 2: Knowledge**

**Halina Dunin Woyseth**

Dr. Halina Dunin-Woyseth is an architect and professor at the Oslo School of Architecture and Design (AHO). Since 1990 she has been the founding head of the School's Doctoral Programme with over 40 Scandinavian and international PhD students. The Programme is opened to PhD students recruited from various “making” professions such as artists, designers, architects, planners, art and design educators and engineers. Her professional, teaching and research experience originated in Urban Design and Spatial Planning-related issues. She has a broad teaching and research practice from Scandinavia and other countries. During the recent decennium she has been mainly involved in issues of knowledge in the design professions. Since 1991 she has edited and co-edited the journal Research Magazine, which documents the development of this field of inquiry in the context of vocational and research education. She has lectured extensively at the doctoral level and supervised PhD students in Norway and abroad. She has successfully served as a main doctoral supervisor for many PhD students as well as been external examiner at numerous public doctoral disputationes in Norway and abroad. She has been commissioned as an evaluator by several research councils in Scandinavia and has also experience from assessing EU-funded research.

**Fredrik Nilsson**

Fredrik Nilsson, architect SAR/MSA, PhD, Adjunct Professor at Chalmers School of Architecture Göteborg, Sweden, Head of Research and Development at the architectural office White Arkitekter, and Professor at Sint-Lucas School of Architecture, Brussels. He has taught and lectured at several of the schools for architecture and design in the Nordic countries, and written on especially contemporary architecture, architectural theory and the relation to philosophy. Nilsson has studied the implementation of different philosophies in contemporary architectural practice with a special interest in the interaction between conceptual, theoretical thinking and practical design work. Later research also along two main lines: one focused on architectural knowledge, design theory and theory of science discussing the possibilities of producing knowledge through architectural practice; the other focused on implications of new technology for the practice and production of architecture as well as for the conceptual thinking in architecture.

'Batch 08' - **Session 3: Design cognition**

**Omer Akin**

Omer Akin, Professor, School of Architecture, Carnegie Mellon University, is a frequently published researcher in the areas of design cognition and computation. His books include Representation and Architecture (1982), and Psychology of Architectural Design (1986, 1989). Upon completing his Bachelor and Master degrees in Architecture at the Faculty of Architecture, Middle East Technical University (METU) in 1970, he obtained a Fulbright Scholarship for graduate studies in the United States of America. Subsequently, he earned a Master of Architecture in Environmental Systems from Virginia Polytechnic Institute and State University (VPI&SU) in 1972, and a Ph.D. in Architecture, from Carnegie Mellon University (CMU) in 1979.

He has been teaching as tenure track and tenured faculty at CMU since 1978. He has served as the Head of the Department of Architecture, during 1981-1988; and the director of the graduate programs, during 1989-2000.

His research interests include design cognition, computer aided design generation, case-based instruction, ethical decision making, and design virtual worlds, building commissioning, and automated requirement management.

He is a registered architect in the Commonwealth of Pennsylvania and the Republic of Turkey. He has a small, selective practice. He has served on many professional and research panels and boards, including National Science Foundation, National Endowment for the Arts, and Educational Testing Center.

**Burak Pak**

MSc in Architectural Design Computing (Istanbul Technical University), B. Arch (Yildiz Technical University), Burak Pak's research and professional interest areas are digital design and education, design computing, generative design, design technologies and virtual environments.

With his colleague Ozan Önder Özer, he managed Interactive Systems in ITU and designed interactive cd-roms and websites for 2 years in d4 New Media design department. He contributed to international and local conferences about design computing and information technologies. He is also actively involved in design workshops and visualization techniques courses as a visiting lecturer in ITU Faculty of Architecture. He worked in many design groups, architectural competitions and worked freelance for architectural offices like Kisho Kurokawa, Doğan Tekeli - Sami Sisa.

He continued his research for 12 months as a Visiting Assistant Professor in Texas A & M University VIZlab and later, in Carnegie Mellon University. Currently Burak Pak is a PhD candidate in ITU Faculty of Architecture and he is involved in a several research projects about the role of Information Technologies in Design. He is a research assistant at ITU Information Technologies in Design Graduate Program.


'Ranulph Glanville - Session 1'

Ranulph Glanville has, over the last decade, worked as a freelance, vagrant professor, mainly commuting between the UK and Australia. In the UK he works at the Bartlett, University College London, where he teaches cybernetics. In Australia, he has had a major part in the development of the extension of the Invitational Masters through Practice to the Doctorate through Practice at RMIT University. He also works with other universities helping them develop research, and new courses and projects, particularly the Universities of Western Australia, Canberra and Monash University, Melbourne. He has written on Design Research for over quarter of a century, early on introducing concepts such as research as design and the importance of finding appropriate theory for design within design, rather unquestioningly than importing theories from other subjects. He has a long term working relationship with Johan Verbeke and, through him, with Sint Lucas Architecture. At the moment he supervises PhD students on 4 continents.

'Adam Jakimowicz - Session 2'

Adam Jakimowicz teaches at Bialystok Technical University, Poland. His PhD thesis was titled “Sources of the Deconstructive Attitude in Contemporary Architecture”. His research interests are ‘Theory of architecture’ (especialy poststructuralist approaches in architecture theories) and ‘digital media in design’ (interpretative and intuitive approaches to digital environments and tools in design). He wrote several papers on digital media in architecture, architectural composition and innovative teaching methods and was co-author on a number of books. He participated at several exhibitions and international research projects (AVOCAAD project (Added Value of CAAD)- international project ACCOLADE (Architectural Collaborative Design) - joint research project “Computer Mediated Collaboration for Multiple - Media Archives of Architecture”, with the CAAD Research Unit, University of Liverpool).

'Nicola Wood - Session 2'

Nicola Wood is an interactive media designer. As well as undertaking freelance design work, she is employed as a researcher at Sheffield Hallam University, investigating applications for multimedia in learning. She has developed an active role in the preservation of rural crafts through working in partnership with her husband, who has been a pioneer in rediscovering lost traditions.
woodworking skills. This provided the background for her doctoral research project, which involved collaboration with learners and craftspeople as well as engagement with questions of multimedia design. Whilst on the surface her research deals with issues regarding learning craft skills, on a deeper level it addresses communication problems that can be encountered in many areas of design and it reveals methods for unlocking the knowledge of others. She would speculate that the understanding of craft learning and the model of apprenticeship she has developed could have applications not purely in the immediate area of the crafts, but also in any area where a tacit understanding needs to be developed.

Simon Bowen
Simon Bowen is currently researching novel methods of product idea generation for a PhD in Industrial Design at Sheffield Hallam University. Prior to becoming involved in design research, He worked for several years in the Internet industry and still undertakes occasional web consultancy work. Photography is another creative outlet.

'Batch 07' - Session 3

Wolfgang Jonas
Born 1953, study of naval architecture 1971-76 at the Technical University of Berlin, research on the computer-aided optimisation of streamlined shapes, PhD in 1983. 1984-87 consulting engineer for companies of the automobile industry and the German standardisation institute. Since 1988 teaching (CAD, industrial design) and research (system theory and design theory) at the University of Arts Berlin and at the University of Wuppertal. 1994 lecturing qualification (Habilitation) in design theory. 1994 - 2001 professor for “process design” at the University of Art and Design Halle /burg Giebichenstein. 2001 - 2005 professor for “design theory” at the University of the Arts Bremen. Since 2005 professor for “system design” at the School of Art and Design, University of Kassel.
Focus of interest: design theory as meta theory, design methods in a systemic perspective, scenario planning. Numerous publications on theoretical and practical aspects of designing, for example “Design - System - Theorie: Überlegungen zu einem systemtheoretischen Modell von Designtheorie” (1994) and “Mind the gap! - on knowing and not-knowing in Design” (2004), also publications on the history of naval architecture in Nordfriesland (1990) and on the aesthetics of modern ships (1991).

Rosan Chow
Rosan Chow is a Ph.D. candidate in information design from the North Carolina State University in the U.S. In her doctoral dissertation, she examines a ‘design-sensitive’ approach to user research in the context of HIV prevention communication. Prior to her studies at NCSU, she studied briefly at the Institute of Design in Chicago. She also obtained a Bachelor (1988) and a Master degree (1998) in Visual Communication Design from the University of Alberta, Canada. She practiced visual communication design between 1988 and 1996 at Philips Corporate Design and Saitek Limited in Hong Kong. She taught visual communication design at the University of Alberta in 2002. She is now living in Hannover, Germany to complete her doctoral research.

'Batch 07' - Session 4: By Design For Design

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Melanie Munt
Born in Munich and grown up in Berlin, Melanie Munt has been living and working the past 12 years in Brussels, Belgium. Supported by various scholarships (Vienna: Dance Web, New York, etc.), she follows her dance education in Berlin, Rotterdam, Brussels and New York. After her
graduation from the school of Anne Teresa De Keersmaeker, P.A.R.T.S., in 1999, she has been collaborating in Belgium with choreographers such as Michèle Noiret, Joanne Leighton, David Hernandez and Bud Blumenthal, and has been participating in the productions of Rosas, William Forsythe and others. In 2002 she created her own company: Company Melanie Munt, which by now has a repertoire of about 14 pieces. Her curiosity about other art forms has influenced her work and led to various collaborations, such as with the puppeteer Cyril Bourgois, the visual artist Charley Case, the musicians Marco Blaauw and Yannis Kyriakides, and the video artists Martijn Grootendorst and Antonin De Bemels. Her work is shown mostly in Brussels and Paris, but recently has also been opening up internationally (NL, D, CH, ES, PL, HR). For further information (pictures, touring schedule...), visit her web site: www.melaniemunt.be

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'Batch 06' - Session 1

Paul Cruysberghs
Paul Cruysberghs (1944) is a full professor at the Institute of Philosophy of the Catholic University of Leuven (Belgium), where he teaches philosophical anthropology and aesthetics. He is the head of the K.U. Leuven Centre of Culture and Philosophy and a member of the board of the International Hegel Society. He published on anthropology, aesthetics and ethics, especially in German Idealism and in Kierkegaard.

Communicating Knowledge

Abstract
Communication is a fundamental guarantor of knowledge. While there are many problems of communication, the solutions to four problems appear to have shaped knowledge acquisition in the last four centuries. The last three solutions point to ways to include senses other than observation.

The first solution became the core of the tradition we call research. Later solutions were introduced to deal with situations where previous solutions resulted in ambiguities. The latest solution identifies what knowledge may support activities such as design and artistic expression.

Introduction
Communication is generally accepted as an important part of research. Only two aspects tend to be focussed upon, however. One is the way results are reported – as papers in journals, or chapters in books. The other is the way results are transferred, i.e. moved from the areas where they proved their mettle to areas where they are expected to show their practical value.

Neither form of communication is easy. It is well known that practical applications may need further work. For example, though planes obey the law of gravity, keeping them in the air goes beyond simply controlling the parameters of that law. The same holds for publishing results. Many are the hours and the drops of sweat that still have to be spent to explain what was found.

Such efforts would be bad, but not too bad. But there is more. As will be shown, communication is inextricably linked to research and as this link is not always recognised, it raises basic and difficult questions by itself. All organisations, including those of research, depend on coordination and hence on communication – both as part and as the product of research.

Exploring the role of communication in research may take many different forms, for example via the concept of paradigms, i.e. taking a historical view of how researchers cooperate (Kuhn, 1962). In this paper, each form of communication in research is assumed to solve a problem that is wider than research and hence can be argued to determine its process and results.

Four such problems are explored. Their solutions can be considered 'inventions', ways of experiencing that, while still part of daily life, were also recognised as constitutive of research. They changed the notion of knowledge, each helping to define new forms – ranging from statements about the motion of planets to support for artistic design.
What will be argued is not that knowledge is but a form of communication as is sometimes claimed (Saunders e.a., 1997) – based on a misinterpretation of Kuhn (1962). It is suggested that acquiring knowledge requires special forms of communication, restrictions that make it possible to exchange and compare experiences, and squeeze them into knowledge (Churchman, 1971).

Four problems of communication

People communicate many things. They may tell you that they ‘love you’, that one ‘should’ pay one’s taxes, that you ‘might’ wish to engage someone’s services and that education ‘will’ improve your chances on the job market. What is said may be accepted (albeit interpreted to one’s own liking), doubted (starting a search for confirmation) or rejected.

Following Descartes (1646/1994), the second possibility is the most challenging. Doubt is special. It introduces a second point of view with which to compare and hence to communicate. But how does one communicate if the second position appears to be God’s or at least that of a worldly authority? The minimum required, it seems, is to establish ‘perfect’ communication.

In the case of God, ‘perfect’ communication appears to require exceptional publishing media such as special messengers (Luke 1:29), burning bushes (Acts 7:30) or a reduced level of oxygen in mountainous air (Exodus 3:4). The only alternative appears that of becoming a member of his church – which of course means accepting its authority.

Churches and organisations may be characterised in two ways. Firstly, members have to communicate – listen to those longer in the church, and contribute what they experience. Secondly, one has to share whatever the organisation professes, to allow it to continue to exist. This means that communication will be restricted to fit the organisation’s purpose, and hence not be ‘perfect’.

Some ‘special’ form of organisation is required, therefore, to doubt as well as to resolve the doubt. It should solve the ‘problem of communication’ even if the solution cannot be perfect. It should help distinguish and solve some sub-problems (Descartes, 1632, part 2, p. 7), most importantly how to communicate with what or who produces authority, without having to mimic either.

Democratised observation

The first (sub-)problem arises when what one sees differs from what secular or religious authorities see. What if they ‘see’ that you are a witch, and you do not? What if you ‘see’ that the earth is a planet and they do not or vice versa? Is there a way to resolve the doubt without exercising ‘authority’ in the way an organisation or its representatives do?

During most of history, the answer to this question has been negative. What the ‘master’ sees is not debatable, what the ‘slave’ sees is irrelevant. This probably is acceptable as long as the former considers ‘wider’ aspects such as the general weal – as in the case of a state. The benefit may offset the relevance to the individual, something that not all organisations achieve, of course.

Authoritarian rejections of grass roots observations are still very much part of political life, even in countries where a free press is active – as most ‘whistle blowers’ will testify. It can be argued, however, that a solution was developed in the seventeenth century that eventually became the basis of science. Galileo used it when he ‘saw’ that not all planets turn around the earth.

Galileo did not literally see this, by the way. What he saw were lights moving next to Jupiter. What he reported was a claim, that the lights were linked to the ‘wider’ notion of planets (things that move in the sky). He thought he could defend this claim against any other, whether provided by ‘authority’ or by ‘anybody’, including people without authority.

The latter claim severely upset the Church of the time (Kuhn, 1957). It threatened its own claim of always seeing ‘wider’. Now anybody could make similar claims, based on person-to-person exchanges. It created a community that could oppose ‘authority’ – by inviting anybody, including that authority, to communicate with the community, without having to become a member.

To deal with this threat, and protect the ‘authoritative’ way of seeing that the Church thought it owned, it offered Galileo to accept his claim, if only he would present his notion of planets moving around Jupiter as a tool for calculation, not as a claim confirmed by grass roots observation. Galileo refused, and thereby became one of the fathers of a new approach, that of science.

This approach has been characterised in various ways. Descartes emphasised its active character, its need to reduce the bias arising when organisations do not listen to grassroots voices. At present, one probably would emphasise the democratic nature of allowing ‘anybody’ to determine what one can see – in what is called ‘democratised observation’.

This term not only refers to the role of observation, but also to the process of ‘anybody’ being able to link local to general levels of observation, for example seeing individual planets as members of the class of planets (planet = wanderer). Such links are also referred to as variables. They identify that the class is partitioned by its instances (Churchman, 1971, p. 192).
Communication in any community that achieves ‘democratised observation’ will be restricted by the injunction ‘see for yourself’. Reporting the results for comparison to reduce bias will be shaped by the ‘language of variables’. It allows people to speak in ways that are difficult to challenge (hence called ‘objective’), in terms of variables, dimensions, factors and their relations.

The language of variables thus appears a solution to the first problem of communication – that of communicating with authorities who ‘do not listen’, except to other authorities. It allows ‘everybody’ to report what ‘each sees for oneself’, and thereby develop observations that can become as unbiased as desired – that is, as if seen from ‘no-where’, or via ‘god’s eye’.

It may be asked whether research is not about ‘what is’, as part of reality – but only about what can be communicated. This is not the case. It is about how one may construct what at present is called an interface, a way to combine what our eyes see and we are able to report – until we can be convinced there is nothing more to combine to be able to use it.

**Conventionalised observation**

Quite early, it was realised that the solution is limited – even though flexible, as it allows for revision and for starting anew. Descartes was aware, for example, that the approach was restricted to ‘seeing’ and did not accommodate what he called secondary senses, such as ‘touching for oneself’ or ‘smelling for oneself’ (a problem still well known in the perfume industry).

Soon many other situations were discovered where it proved difficult to partition and compare instances. It was common at the time to partition (or measure) length in different ways, e.g. via English or Dutch feet or ells and so on. ‘Seeing for oneself’ proved insufficient to correct for this ambiguity. To expand ‘democratic observation’ to these cases, a restriction appeared necessary.

An example is the convention of the standard length (maintained in Paris under strict conditions, e.g. of temperature). It fixates the semantics of the language of variables in terms of the meter, when talking about length. This again allows people to ‘see for themselves’, and to compare what they see and thereby challenge biases when they occur.

Another example is the convention of standards in clothing – as when Frederik the Great wished to mass-produce his army’s uniforms. Now the semantics are fixated by restricting communication (‘see for yourself’) concerning instances to samples or populations. The language of variables thereby became transformed into the language of statistical variables.

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2 Any organisation will produce beliefs, statements that are biased. Some organisations attempt to reduce these biases on the outside, but not on the inside – as in the case of paradigmatic research programmes (Lakatos, 1978; Kuhn, 1962).

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**Mirrored observation**

A new, and third, problem of communication arose when soldiers noticed that their mass-produced uniforms did not always fit. This meant ‘seeing for themselves’ as if from the inside out, rather than from the outside in as when one uses the language of variables. This introduced an ambiguity that was difficult to reduce without terminating the mass-production.

To deal with this ambiguity implied having the language of variables extended again. One would have to adapt the mass-produced uniforms to individual differences, so what one ‘sees for oneself’ inside could become linked to what one sees outside, a fitting uniform. This entailed adding a language for the inside – constrained or restricted by the one for the outside.

Eventually a solution was identified. It required ‘seeing for oneself’ from the inside (‘now-here’) as a way of ‘seeing for oneself’ from the outside (‘no-where’, in the words of Nagel). This way, the original problem of communication re-emerges, where individuals compare what they see with what ‘authorities’ see, and involve the latter in communication.

An example where this solution appears implemented is any highly trained collective, like a star team in hockey or football. Each player will attempt to reduce his or her bias when observing other players – as well as reduce the bias in observing what they do together (including getting a score, playing out some strategy, avoiding getting a yellow or red card, etc.).

One may say that the individual reduction of bias is contextualised by his or her role (centre, keeper), while reducing bias in that role (or fulfilling one’s task) depends on being able to reduce any bias in observing what is achieved. This type of communication implies a division of labour, or more generally, the development of a coordination system.

Another example of a coordination system may be found in any community speaking the language of variables – as a solution to the first problem of communication.

People coordinate by pointing to what they think others might see and requesting to report what is seen, as a way to reduce bias in what is reported. Coordination here consists of comparing.

The solution to the third problem of communication extends this coordination system by allowing for languages that are more complicated. The language of problems helps to coordinate activities by helping to make visible what objective(s) are to be achieved, starting from what point in time and space, under what constraints (e.g. financial).

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3 Coordination systems are not restricted to social collectives. The molecules in a gas are also coordinated: they ‘see’ each other (we usually do not assume that they reduce any bias in what they see), and thereby produce collective ‘scores’ like pressure, temperature and volume.
If one reduces the bias in some observation, one can say that knowledge has been acquired (‘knowing’ to observe). The use of the language of variables leads to knowledge in the form of statements that include variables, or to what are called ‘law-’ or law-like statements. Such statements embody knowledge. They constitute what may be called recognition systems: they help to see.

The same holds for communities that make use of, for example, the language of problems. They can be said to be knowledge in that they ‘exercise’ to reduce the bias in individual observations and thereby solve problems effectively and efficiently (de Zeeuw, 2003). They differ from organisations that become ‘authorities’ precisely in this: they reduce bias rather than increase bias.

**Storied observation**

The solution to the third communication problem is an expanded language (expanded from the language of variables, by adding an internal language as a constraint), but still a restricted one – and hence not a natural language. This suggests that many more expansions are possible to deal with various problems of communication – such as the fourth, the fifth, etc.

It will be interesting to speculate on these possibilities elsewhere. Given space and time now, only the fourth problem of communication will be explored. It can be expected to arise when it proves difficult to develop collectives that perform a predetermined task. The solution to the third problem only helps to increase knowledge of collectives that already know what they want to do.

Solutions to this fourth problem of communication should help to create collectives, therefore. One proposal has been to do so via telling stories. Stories engage listeners. Listeners may become a collective, the coordination system of which is shaped via the story. Members may start to resist ‘authorities’ – as happened when Galileo built on the work of Kepler and Brahe (Kuhn, 1957).

It is suggested that stories help build up collectives that show pre-determined characteristics, or in other words, the development is intentional. If this is the case, the stories themselves embody knowledge – knowledge that may be used to develop collectives, to achieve certain tasks, and thereby allow the knowledge to be tested and their achievements partitioned.

**Conclusion**

One can find many examples of stories intended to explore and support the tradition of knowledge acquisition that arose with the solution to the first problem of communication. One may think of historical descriptions of ‘great men’, of ‘great achievements’, but also of anecdotes that describe the experience of research (such as Archimedes’ heureka).

In this contribution, it was attempted to tell the story of communication in research. This story does not tell what has been, or what is and can be studied, but distinguishes a number of ways to expand on the peculiar form of communication that determined what now is considered science. ‘See for yourself’ was taken to strengthen resistance to ‘authorities’.

Communicating via restricted forms of communication originally led to types of knowledge that appeared well suited to better see or recognise the non-living world. They emphasised observation. Expanding these forms helped to include activities – and eventually the many emotions, intentions and feelings that determine personal expression and creation.

Another interesting characteristic seems worth noting also. It is that knowledge increasingly appears to be developed to increase what people are able to do (in collectives with certain forms of communication), and hence have to be based on respect for others. This allows them to freely join or avoid non-authoritarian collectives, and possibly reduce their ‘authority’ (Axelrod, 1984).

This is an optimistic claim, maybe too optimistic as there is a trap. The solutions presented make it possible to acquire knowledge, for example by creating collectives that can be trained and developed. Once such collectives have been created, one might be seduced to study them as such, that is only via the first solution. This will eliminate the group and hence its knowledge.

Gerard de Zeeuw

**References**

A Classroom without Qualities:
or, Where to begin this conversation?

Now, that man is more of a political animal than bees or any other gregarious animals is evident. Nature, as we often say, makes nothing in vain, and man is the only animal whom she has endowed with the gift of speech. And whereas mere voice is but an indication of pleasure or pain, and is therefore found in other animals (for their nature attains to the perception of pleasure and pain and the intimation of them to one another, and no further), the power of speech is intended to set forth the expedient and inexpedient, and therefore likewise the just and the unjust. And it is a characteristic of man that he alone has any sense of good and evil, of just and unjust, and the like, and an association of living beings who have this sense makes a family and a state.

Aristotle, Politics

All shattered writing has the form of a key.

Edmond Jabes, The Book of Questions

Those who first invented and then named the constellations were storytellers. Tracing an imaginary line between a cluster of stars gave them an image and an identity. The stars threaded on that line were like events threaded on a narrative. Imagining the constellations did not of course change the stars, nor did it change the black emptiness that surrounds them. What it changed was the way people read the night sky.

John Berger, And Our Faces, My Heart, Brief as Photos

Preamble

What claims and assumptions might one bring to an area of thought? Another way of asking this: how, when and where does one begin a story or a conversation? And what of that void between expression and intent? The giving an account of a coming-into-being – be it a person, a building, a process or a nation – involves the problem addressed so brilliantly by Lawrence Sterne in The Life and Times of Tristram Shandy – namely, how far back does one trace a line of implied or assumed cause and effect to understand the context in which a new entity came into being?

What prescribes the boundaries of architectural practice? Rem Koolhaas may declare that context sucks (or words to that effect), but Latour’s intriguing question – “What is a context in flight?” – is a question that might concern us more. Latour declares that “the problem with buildings is that they look desperately static. It seems almost impossible to grasp them as movement, as flight, as a series of transformations. Everybody knows—and especially architects, of course—that a building is not a
static object but a moving project, and that even once it is has been built, it ages, it is transformed by its users, modified by all of what happens inside and out side, and that it will pass or be renovated, adulterated and transformed beyond recognition.” So our description problem is inseparable from our explanation problem, Latour suggests: “Only by generating earthly accounts of buildings and design processes, tracing pluralities of concrete entities in the specific spaces and times of their co-existence, instead of referring to abstract theoretical frameworks outside architecture, will architectural theory become a relevant field for architects, for end users, for promoters, and for builders.”[1]

The following notes seek to convey something of the spirit of a first RTS meeting (but not its content – the genre adopted is fictional rather than documentary) – that is to say, the moment when participants for the first time meet each other and their tutors and seek to represent – to themselves, to each other, to the programme at large – their research interests. Their tutors for this first meeting are Gerard de Zeeuw and myself (but I have made no attempt to represent Gerard’s immense contributions to these meetings and refer you instead to Gerard’s chapter in this volume as an example of his thinking on the topic of communication). That is to say we collectively face the challenge of giving an account of inquiries that are as yet largely speculative; perhaps, therefore, what Gerard and I may most appropriately seek to create is a pedagogical atmosphere in which (what Wittgenstein calls) the dawning of an aspect can occur, bringing into momentary focus those intentions, motivations and contexts that are rarely made explicit, or even understood, and exploring them from a range of critical and empathetic, historically-informed and imaginatively-engaged perspectives. For this reason, the text that follows is deliberately fragmentary, seeking to draw the reader into the hermeneutic space which I will assume is situated between what is declared, proposed, questioned, or otherwise described in language. This ‘empty’ space – the white spaces of the page between words, sentences, paragraphs – is the arena of connections are made and meaning(s) activated or explored. In this, it represents an analogy to the ‘classroom without qualities’ – the RTS classroom before where connections are made and meaning(s) activated or explored. In this, it is the white spaces of the page between words, sentences, paragraphs – is the arena of connections are made and meaning(s) activated or explored. In this, it represents an analogy to the ‘classroom without qualities’ – the RTS classroom before where connections are made and meaning(s) activated or explored. In this, it represents an analogy to the ‘classroom without qualities’ – the RTS classroom before where connections are made and meaning(s) activated or explored. In this, it represents an analogy to the ‘classroom without qualities’ – the RTS classroom before where connections are made and meaning(s) activated or explored. In this, it represents an analogy to the ‘classroom without qualities’ – the RTS classroom before where connections are made and meaning(s) activated or explored. 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**In pursuit of a question**

You are simply victims of your own pleasure in listening and sit like the audience at a sophist show rather than as citizens deliberating about the state.  
*Thucydides, History.*

We’re an animal that goes around asking questions. Questioning is the absolute duty of the soul, the human spirit. Whereas there are sensibilities which rejoice in the certitude of an answer, ours is, I think, on the whole, afraid of what might be the terrible boredom of paradise, the unimaginable.  
*George Steiner*
I might say: there is something she does not know that she feels she is supposed to know. Not knowing what this might be, she feels she must look stupid for not knowing what it is she does not know. She says nothing, but knows that this is not the silence of Cordelia. It is not “tacit knowledge”. She is not (metaphorically speaking) crashing and recalibrating the sense-making system; she is anxious, and (worse) imprisoned within her anxiety. It is simply not knowing – non-knowledge. This much she knows.

*What is your position? Where do you stand? Who are you addressing? Why?*

I put it very simply: my duty (as a scholar, a thinker, an artist) is to curiosity, and fascination.

What, then, is the relation between wisdom, intelligence and creativity? Let’s start with wisdom, for which a group of students has identified six core components: 1. *Reasoning ability* (good problem solving ability, a logical mind, ability to make connections and distinctions between similarities and differences, ideas and things); 2. *Sagacity* (empathetic, thoughtful, fair, a good listener, not afraid of making mistakes, listens and learns); 3. *Learning from ideas and environment* (attaches importance to ideas, perceptive, learns from other people’s mistakes); 4. *Judgement* (thinks before acting or making decisions, able to take the long view, thinks before speaking); 5. *Expeditious use of information* (seeks out information, especially details, is mature and experienced and changes mind on basis of experience); 6. *Perspicacity* (intuitive, can offer solutions on the side of right and truth, able to see through things, read between the lines, has ability to understand and interpret his or her environment). [2] Such a list (and we can argue over its contents and exclusions) is most dispiriting; it might tell us something about the broad characteristics of what we might identify as “wise” people, but to understand wisdom truly involves both *experience* and *action*. This combination we might find in *examples*, *anecdotes* and *stories* — literature is, of course, a rich source for these as is the workplace — and also through facing shared challenges with others. Wisdom thrives in the heat of battle as much as the contemplative silence of the cloister. Agathon’s account of wisdom in Karel Capek’s short story from 1920 *Agathon, or On Wisdom* is interesting in this respect; “Wisdom,” Agathon proclaims (in a sparsely-attended lecture!) “cannot be cruel since it is composed of kindness and sympathy; it does not seek common gains but loves people too much to love a goal beyond them; if it finds a weakness, it forgives and pities; wisdom leads to harmony. Yet wisdom is a kind of sorrow. Reason can be wisdom. Reason is in the deed, wisdom is in the personal experience. But wise poets and artists may be able to put that experience into their works. This, then, is the special value of art, second to nothing in the world.” [3]

Not knowing is bad enough – worse still is not knowing what it is I don’t know. I’ll bluff instead. I’ll pretend to know. Since we don’t know what it is we don’t know that we’re supposed to know, I’ll pretend I know everything. That should keep everyone at a distance and discourage questions.

**Such turnings and twistings: thinking through spaces**

“Unfortunately,” Robert Musil writes, “nothing is so difficult to represent by literary means as a man thinking. A great scientist, when he was once asked how he managed to hit upon so much that was new, replied: “By keeping on thinking about it.” And indeed it may safely be said that unexpected inspirations are produced by no other means than by the expectation of them. To no small extent they are a success due to character, permanent inclinations, unfailing ambition and persistent work. How boring such persistence must be! And then again, from another aspect, the solution of an intellectual problem comes about in a way not very different from what happens when a dog carrying a stick in its mouth tries to get through a narrow door: it will go on turning its head left and right until the stick slips through. We do pretty much the same, only with the difference that we do not go at it quite indiscriminately, but from experience know more or less how it should be done. And although of course a head with brains in it has far more skill and experience in these turnings and twistings than an empty one, yet even for it the slipping through comes as a surprise, it is something that just suddenly happens; and one can quite distinctly perceive in oneself a faintly nonplussed feeling that one’s thoughts have created themselves instead of waiting for their originator. This nonplussed feeling refers to something that many people nowadays call intuition, whereas formerly it used to be called inspiration, and they think they must see something supra-personal in it; but it is only something non-personal, namely the affinity and kinship of the things themselves that meet inside one’s head.” [4]

**Transverse epistemologies (or, Where might my thinking end?)**

Designers today typically face problems that are neither predictable nor simple, but rather highly complex. As a result, as Julie Klein notes, “the art of being a professional is becoming the art of managing complexity.” [5] This “art of managing complexity”, made necessary when formerly distinct disciplines not only co-operate (as in interdisciplinarity), but even merge to form new disciplines (as in transdisciplinarity), puts a strong emphasis on the *appropriateness* of the methodologies and forms of communication used to connect ideas from different fields. We can learn much from theories of metaphor and analogy in this respect. [6] But the notion of *transverse epistemologies* designates not so much a confluence of methodologies as an epistemological displacement from one area of relevance to another – that is to say, a rhizomic praxis of *linking*, *seeing connections*, *generating networks* to arrive at new
knowledge – requiring, in turn (to explore the boundary or edge condition of "substance"), theories of edges, borders, slippage and distinctions (otherwise how can we know what we are linking?). Such concepts presuppose a notion of a substance (or material) – i.e. the matter between which we are seeking to operate our conceptual looms and weave our connective threads. To work the space between disciplines, we may have recourse to paradox, contradiction, epistemic control and release – the liminal zone where sense meets nonsense. The name for this discipline of disciplinary abdication is transdisciplinarity.

Transdisciplinarity is described as follows by The Academy for Transdisciplinary Learning and Advanced Studies (ATLAS):

Transdisciplinary education and research take collaboration across disciplinary boundaries a step further than do multidisciplinary and interdisciplinary programs. In following the transdisciplinary concept, researchers representing diverse disciplines work jointly to develop and use a shared conceptual framework that draws upon discipline specific concepts, theories, and methods, but addresses common problems through a new synthesis of a common ontology, theories, models, and methodology. [7]

The idea here is that certain problems or challenges (poverty, space exploration, health, security, play, for example) exceed the reach of any single conventional academic discipline and therefore require first a co-ordinated, then a synthesising approach. "If joint problem solving is the aim," Helga Nowotny notes, "then the means must provide for an integration of perspectives in the identification, formulation and resolution of what has to become a shared problem." [8] As the prefix "trans" indicates, transdisciplinarity denotes that which is between, across, and beyond the different disciplines (or, as Diana Domingues remarks, it "establishes the "secret bridges" between knowledge, the unknown passages of theories, the hidden shared operations in knowledge generation at microbiological levels"). [9] The assumption is that the uncertain space between and beyond disciplines is a rich seam of untapped information and potential insight, not least at the methodological level. At the same time, disciplinary research is not eclipsed or rendered obsolete by transdisciplinary research; rather the two approaches complement and clarify each other. For designers, establishing the limits of professional practice must remain an open question. The designer who sets prescribed limits to her field of operations runs the risk of irrelevance in a rapidly changing economic climate. What, then, would it mean to design a genuinely transdisciplinary curriculum for designers, with problem-focus and problem-selection at the centre?

A concern with neither/nor logic – between, across, and beyond existing disciplines – implies a concern with relationality (i.e. how we establish relations, positions, borders between different disciplinary themes and methods) and thus the nature of distinction itself. Yet to distinguish (and thereby establish relations between) entities, means that we come up against a problem that is both ancient and contemporary – that affects the way we think of disciplinarity, interdisciplinarity, networks of various kinds, and transdisciplinarity – i.e. the notion of "substance". What is the fundamental property of, say, a creature, a subject, or the world itself that allows us to categorise matter within such terms? The answer is less likely to be found in the fact that a thing exists (a dodo, decision theory, or "Planet Earth") than in how it works.

We need only consider the logic of disciplinary identity – the partitioning of appropriate topics, references and methods, the inclusion and exclusion of categories, their 'binding' and dissemination – to see the primacy of the how over the what in the formation of disciplinary 'substance' or 'matter'. Conversely, we see an increasing number of disciplines that have been formed around no conventional 'content' per se: logistics, game theory, network theory, decision theory and so on. [10] Might we compare this to the difference between (disciplinary) identity ("I am an architect") and (disciplinary) gesture ("Je est un autre," in Rimbaud's famous phrase)? Architecture delineates an (admittedly broad) sphere of practice, yet design (the family name of which architecture is a member), and particularly the notion of "design thinking" (which bears common features with transdisciplinary thinking and research more generally) designates a horizon of potentiality. And yet architects are negotiators par excellence, needing to communicate successfully with a wide range of stake-holders, including engineers in all their varieties, politicians, economists, urban planners, environmentalists, interior designers, artists, management consultants, business professionals, facility managers, lawyers and so forth. How does such a fragmentary mode of communication congeal (if at all) around a core of disciplinary identity? [11] Might one answer be: the capacity to interact at the level not of substance (depth, weight etc) but of gesture (the ability to communicate and modulate Latour's 'context-in-flight')?

Many people, few gestures...

A gesture, according to the poet and philosopher Jan Zwicky, is meaningful only to the extent that it involves an act of communication between the gesturing being to the person being addressed. This, I propose, represents a useful analogy not only to design and research, but also to teaching. What concerns us, in these preliminary meetings, is a recognition of what is held in common; from here we may find our own routes into the uncertain work that lies ahead. Zwicky expresses this succinctly:

A gesture is meaningful to the extent that it addresses a being in its life, from out of the life of the gesturing being. Another way of putting this is to say that meaning lives through, or rides, the recognition of what is common. More strongly: a meaningful gesture recognizes that if one context or conceptual situation is laid over another, just so, they will be seen to stand in resonant relation—and awareness of this relation makes a difference to our grasp of the individual contexts or concepts. ("You must change your life.") Another way of saying this is to say that to mean is always, in some measure, to carry across: meta pherein. Jan Zwicky, Wisdom and Metaphor
To carry across: that is as good an invitation as any to end here, at the beginning of our attempts to draw imaginary lines between various clusters of concepts, and to point out such work to our neighbours in the belief that by working together in this way, our collective understanding, reasoning and capacity to wonder will be strengthened, and we will discover what distinguishes us and our thinking, and equally what we share as part of our human inheritance. “If our planet has seen some eighty billion people,” Milan Kundera writes in Immortality, “it is difficult to suppose that every individual has had his or her own repertory of gestures. Arithmetically, it is simply impossible. Without the slightest doubt, there are far fewer gestures in the world than there are individuals. That finding leads us to a shocking conclusion: a gesture is more individual than an individual. We could put it in the form of an aphorism: many people, few gestures.”

Rolf Hughes

Endnotes
4. Robert Musil, The Man Without Qualities Volume One Translated by Eithne Wilkins and Ernst Kaiser Picador (1979)
10. I am grateful to Gerard de Zeeuw for sharing this observation at our last meeting.
Each pedagogical concept builds upon a more or less articulated “credo” of the teachers as to the subject matter to be taught and to their ideas of how best to teach this subject. We have since 2006 attempted to contribute to the building of a doctoral program at the Sint-Lucas School of Architecture. One of our responsibilities has been the annual Research Training Session (RTS) which focused on knowledge and its various landscapes as well as about how design and architectural knowledge could be positioned in these landscapes. (Dunin-Woyseth & Nilsson, 2006) While teaching at the RTS sessions we have tried to paint a broad picture of what have been the traditional ideas about academic knowledge, which is discipline-based, and of the so-called “post-academic science”, which has been much discussed in the Philosophy of Science literature as well as in more broad forums of popular scientific publications and media programs the recent times. As these issues are very complex and abstract, we wished to build bridges between, on the one hand, the prospective PhD students’ everyday life as teachers of architecture and the practitioners of this profession, and, on the other, the complex issues of various kinds of knowledge.

Our “credo” concerning this “bridging attempts” has been that while the academic knowledge is based on various argumentative modes of thinking, the most fruitful way architects think is through various associative modes. While most of argumentative thinking is being expressed verbally and in a textual way, the associative thinking moves on using most often visual ways of thought and argumentation. We decided that, having a strong time limit in mind (the whole RTS consisting of one evening, one whole day and a morning session), we should use most effectively the time asking our students to apply the mode of thinking they adopt each day, i.e. the associative way of approaching new information and structuring it into working concepts.

The core of our teaching has therefore been to request the students to present the “WHY?”, “WHAT?” and “HOW?” of their ideas about a doctoral project in the forms of on the one hand a short written part, and on the other a poster illustrating their ideas graphically. The challenge in the last part was to use a minimum of textual information and to create images which would serve as a synthesis of their thinking about the matter. The students worked individually and then presented their work during a plenum session. At least two colleagues examined the posters, both presenting their impressions and asking the authors to supply them with elaboration on what they wished to express. Based on this questioning and answering part of the exercise, the authors of the individual posters developed their presentation for an inquiry in plenum. The posters were then added extra information, most often in form of small textual explanations. While in plenum, the posters in their edited form were
presented and discussed by the co-students and the teachers. After each of our RTS we asked the students about their experiences from the exercise. It turned out that our pedagogical objectives, to help in "building bridges" between the abstract landscapes of various kinds of knowledge and their own ideas as to their prospective doctoral work, to position this work in these knowledge landscapes, have been to a certain degree achieved. This positive feedback has encouraged us to study our pedagogical approach in more general terms of the relationship between argumentative and associative modes of thinking. We discussed how using this approach could help to develop more insight, based on one's own background and experience as well as on newly provided information; how using images and supply them with clarifying, catchword-like textual information, could work synergistically.

There is not many theoretical works by architectural and design pedagogues on this issue. One of such few works is certainly the doctoral dissertation "Knowledge through pictures: A study of how pictorial practice affects understanding in the field of study for students of natural and social science" ("Kunskap genom bilder. En studie i hur studenter inom natur- och samhällsvetenskapliga utbildningar fördjupar sin ämnesförståelse genom arbete med bilder" – in its original Swedish version) by a Swedish architectural scholar Yva Dahlman. The thesis ascertains that creating a picture means turning imagination into a concrete object. This does not "illustrate" an idea, but a direction of imagination into an articulation other than verbal thoughts or ideas. This picture presents a moment in the ongoing process of imagination. The act of drawing "translates" hitherto unarticulated forms of experience into artifacts possible to reflect upon. This act of drawing provides for that seemingly incompatible categories of experience are being connected. Old and familiar categories are being overcome in it. It is maintained and argued for, that the range of imagination increases and, with more alternatives at hand the ability to formulate and solve problems is being enhanced. The author contends that the process of drawing entails that when the issues are accepted in a new articulation, knowledge has grown (Dahlman, 2004:5).

Images, visual thinking and aesthetic approaches are important in knowledge production and have been significant through the history of science, as well as in the interplay between art and science as it has been discussed by Martin Kemp in several books. (Kemp, 2000; 2006) Artful drawings, models and visual diagrams have often been used as tools for inquiries into the world, and to envisage and represent the ways nature works both in its "seeable" and unseen mechanisms.

But it is especially during the last decades that we have seen an increasing discussion on the importance of knowledge through design and computational modelling, which stresses the importance of information technology and communication in a research process increasingly complemented by visual simulation and dynamic imaging.

(Gibbons, 1994:44-45) Images and non-verbal communication are with the support of new technologies developing new languages and ways of conceptualisation and communication within science, advancing the most disciplinary considerations as well as making it possible to discuss complex phenomena with other disciplines, laymen and a general public.

Nigel Cross has argued that the ways of knowing and trained capacities characteristic for designers rest on the manipulation of non-verbal codes in the material culture, and that these codes or "object languages" facilitate the constructive thinking of the designer, in the same way as other, e.g. verbal or numerical codes, facilitate analytic, problem-focused ways of thought. "The concrete/iconic modes of cognition are particularly relevant in design, whereas the formal/symbolic modes are more relevant in the sciences." (Cross, 2007: 28) The particularly constructive, concrete thinking through different "artefacts" can be seen as using the objects of the design thinking as both modelling and communication devices.

Cross also argues that the description of new thoughts and ideas in design as "creative leaps" in which a novel concept emerges is somewhat misleading, and that this "leap" is more akin to "bridging" between problem space and solution space, (Cross, 2007) It can be seen as building a bridge, or associating to a new part of the possible solution space, in where one finds an appropriate or illuminating concept. Cross describes this recognition of a satisfactory concept as a perceptual act by the designer, that has analogies to a perceptual "puzzle" in which one suddenly sees new things. This crucial moment then relies not only on mental reasoning, but is a perceptual action using several faculties of our perception.

In all science, and especially in the post-academic science, the mixing of media and disciplines are important ways of finding new ideas and paths. John Ziman underlines that from a cognitive point of view, 'interdisciplinarity' is one of the major sources of mental creativity, and that original ideas are typically novel combinations of existing ideas. To 'make the connection', he writes, one has to cross the boundaries between supposedly distinct paradigms – that is, between distinct disciplines. (Ziman, 2000: 212) This sounds quite obvious, not at least to a designer, but using the possibilities to bridge between different mental spaces by using and creating images can still be stressed and developed within scientific research.

When the 10th biennial conference of ELIA (European League of Institutes of the Arts) was to be organized in late October 2008 by the Gothenburg University in cooperation with the School of Architecture at the Chalmers University of Technology, we were requested to contribute to one of the workshops, that was dedicated to the discipline of architecture. The invitation came from the chair of the workshop, the Pro-Rector of Chalmers, associate professor Lisbeth Birgersson, who had set the title...
of the workshop to “The design of the design”. In preparation for the workshop we discussed together with professor Birgersson how to make the two hours, which was the time slot for the workshop, into an event promoting a new, better and broader understanding of various design teaching traditions in several European countries as represented by the participants of the workshop. We proposed to use the pedagogical concept we have used during the three RTS at the Sint-Lucas School of Architecture, and we all agreed to also “test” the findings of Ylva Dahlman who ascertains that the process of drawing entails that when the issues are accepted in a new articulation, knowledge has grown. We called the workshop “Various views on the design process”.

As a factual input one of us was to introduce to the exercise through a brief lecture of 30 minutes. This lecture was to be followed by a combined individual and group-wise exercise around “drawing” a concept of teaching design at various European schools of architecture. The whole exercise should last no longer than 50 minutes. As the last component of the workshop a plenum discussion was proposed to be held for the last 40 minutes of the workshop.

We both elaborated on what the introductory lecture should build upon. We chose for structuring the lecture the set of competing conceptions of architectural knowledge as promoted by Alan Colquhoun. He maintained that the history of architectural knowledge has been constituted through two perspectives: the a priori of rationalism and the a posteriori of empiricism. He further stated that the history of architectural theory during the last two hundred years has been the history of conflict between these conceptions of architectural knowledge. Regarded from the a priori point of view, empirical knowledge is random, unfounded, and subject to contingency. Seen from the other point of view, a priori knowledge becomes unsure and dependent on authority (Colquhoun, 1981). The lecture was to shed light on how the main traditions of architectural teaching have been representative for these two conceptions.

The beginning of theoretical primacy in artistic education (and the architectural education can certainly be regarded as such) can be set as long back in history as to Leonardo da Vinci, who would have the young artist taken out of the workshop altogether in the first years of his education and exposed to the new principles of art (Gelernter, 1995:114). The aim was to separate art from handicraft and to teach the painter more knowledge than skill (Da Vinci, 1956:47; Pevsner, 1940:34). The great master meant that: “Those who fall in love with practice without science are like pilots who board a ship without rudder or compass, who are never certain where they are going. Practice ought always to be built on sound theory” (Da Vinci, 1956:48).

Ecole des Beaux Arts, established in Paris in 1671, was consistent with the educational theory of the times: establishing an educational program as opposed to a vocational training program (Salama, 1995:41). “Academic education places emphasis on the study of compositional theory and the traditional principles of formal design as the most important aspect of the architect’s education. These principles are considered to be most satisfactory learned in schools or academies, where professors are well acquainted with the best design principles, as exemplified in great buildings of the past, or the historical manuscripts of architecture” (Salama, 1995:41).

The Bauhaus is regarded as a watershed in twentieth century architectural history with regard to the emergence of one dominating paradigm. The founding manifesto of 1919 opens with a call to find the source of art and design in the craft-related consideration of material and function (Gelernter, 1995). The bearing pedagogical idea was that the Bauhaus students should not be given any preconceived ideas about form. “Architects, sculptors, painters, we all must return to the crafts! For art is not a ‘profession’. There is no essential difference between the artist and the craftsman. The artist is an exalted craftsman. In rare moments of inspiration, transcending the consciousness of his will, the grace of heaven may cause his work to blossom into art. But proficiency in a craft is essential to every artist. Therein lies the prime source of creative imagination” (Gelernter, 1995:239-240).

In the times to follow the closure of both the Bauhaus (1933) and the Ecole des Beaux Arts (1968) the majority of schools of architecture in the Western countries developed their curricula which in a way and to various degrees combined these two models of teaching architectural design, that of an a priori stance with regard to architectural knowledge, and that of a posteriori. The introductory lecture was to present certain examples of these combinations and some attempts to generate more pioneering approaches to design education, which were developed recently. It was to “conclude” with asking the workshop participants to visualize what tradition their own institution could be described of having as predominant in their own teaching of architectural design.

The exercise text requested to: “Visualize individually in a graphic picture the image of the design process that is guiding or taught at your school”. For this part the individual participant had only 10 minutes. After that time they were requested to: “Present your images shortly and discuss in groups of 3-4 people what similarities and differences could be seen. Could they be connected to different concepts or traditions presented in the introductory lecture?” In the closing part of the workshop the participants were requested to “Choose one person in the group to shortly present the discussion to plenum. What differences / similarities did you see? What changes were discussed?”

The workshop followed the structure which was decided during our initial planning. The group work was afterwards described by one of the participants in this way:
“The workshop group consisted of five teachers and one student representing French, Swedish, and Dutch institutions, started out by elaborating on their ‘institutional’ ways of teaching architecture. After some introductory remarks an abstract but visual model of the two main approaches was developed. Either on a theory based design where the theory was taught a priori or on a design based theory where ‘the design of the design’ was the ‘mother’ of the knowledge.

The conclusion based on the development of the models and the discussions following them were that none of the two traditional models were symptomatic for approach to the recent teaching in architecture. By ‘dotting’ out the vertical line between the two contradictory models a and b, a third model of explorative teaching was emerging, which is cross bordering and transdisciplinary both horizontally between Mode I and Mode II and also vertically puncturing the fixed boarder between the a priori and the a posteriori models.” (Syversen, 2008)

In the citation above the informant has referred to the issues of new modes of and approaches to knowledge production, Mode 1 and Mode 2 as well as to transdisciplinarity, as introduced by Gibbons et al (1994). The metaphor of “bridging”, as expressed by Cross and Ziman, can be traced, even if not mentioned by the informant, as a “tool” the group applied, while developing and communicating their cognitive movement from associative to argumentative mode of thinking.

During the concluding plenum session the group discussions were presented using the images as point of departure. Mostly the images were produced individually and used as means to communicate different perspectives – as was asked for in the assignment – but the group cited above also produced a new image collectively during their discussion. Their presentation turned out to be the richest and demonstrated several perspectives in a coherent picture.

The plenum session could not come to any conclusions concerning the different models of art and architectural education, which was not intended, but it was also hard to clearly relate to the different conceptual perspectives presented initially. From the work in the cited group a new concept emerged, “a third model of explorative teaching”, which was bridging previous “borders”. The workshop itself became an illustration of the potential of using images and visual thinking as devices for both modeling and communicating within a discussion or a problem finding situation.

The group that expanded the rules of the assignment and consciously were using the images as a dynamic tool during their discussion came farthest in formulating a collective conceptual view on the contradictory perspectives at stake. The visual thinking was here bridging between concepts and people in new ways.

Both the RTS sessions and the ELIA workshop have strengthened us in our view of the importance of developing more cognizant methods based on visual capacities within architectural research. These pedagogical experiences have also made us more aware of that images can play a lot of different roles in architectural research. Visual thinking can “build a lot of bridges”, can make many connections while translating unarticulated experiences together with newly acquired information into concrete artifacts. These artifacts can be used in modeling and communicating, but also be reflected upon and discussed through impressions using a broader spectrum of our perceptual faculties and designerly intelligence.

Halina Dunin-Woyseth & Fredrik Nilsson

References


Last year, during May 22-24, 2008, Burak Pak and I returned to St-Lucas RTS sessions with a repeat of the “design cognition” tutorial. “The study of cognitive processes in design has been going on for over thirty years. Design was viewed early as one of the creative human tasks that, like chess, seemed immensely challenging. If we can understand creative design, we have gained great insight into how humans think. Understanding how design is accomplished has practical benefits also. Understanding the processes used and the skills gained and required to realize particular tasks should allow us to teach design better. As design becomes more augmented by computers, it also should greatly facilitate the development of better design tools. Since the beginning of research in Design Cognition, many empirical studies and insights have opened up our understanding of design. While design is largely a mental activity, it interacts strongly with heterogeneous external representations. It encompasses problem definition and solving, analogical mappings, mental imaging and other mental processes. It requires team coordination and is situated in a cultural milieu that defines roles and modes of behavior.”

[GA Tech PhD Program website: http://www.coa.gatech.edu/phd/]

There were several modifications and improvements that we made to our 2008 Design Cognition session. These included the integration of the charette task into the contact hours of the program, restructuring and condensing the lectures, and greater focus on the participants’ research proposals.

The integration of the design charette into the three day program rather than asking the participants to design before they came to the session worked very well. The participants were teamed up into groups and asked to find a quiet corner of the Sint-Lucas-Brussels Architecture Faculty building. Some chose to go outdoors onto the terrace or to the courtyard adjoining the conference room; or to stay in the conference room near the administrative offices. All teams developed a “toy design” proposal, which required that the designers:
“...generate a new concept for a toy/game product or suite of products. It is up to you to decide if you want to focus on an individual product or a suite of products. The most important consideration for your client is to launch a new concept based on the recent research on toys and their impact on developmental psychology. It appears that there is a big difference between playing games without toys and with toys. The former helps develop self-regulation because children have to create their own structure for the game to take place using surrogate and imagined props; whereas the latter does not because the props, structures, and regulating rules are embodied in the toy. Your client believes in creating a new line of children’s game concepts that can be marketed to ages 3–9 that foster greater self-regulatory skills in these children, and compete favourably with the onslaught of TV, electronic games, and other childhood tasks, like taking lessons ...”

The problem was chosen from outside of the normal set of design problems that architects and engineers deal with in order to “level the playing field” for all participants since they came to our session with various backgrounds and design skills. Many of the solutions that were developed, by virtue of the fact that this was a novel design problem, resulted in the designers coming up with solutions out of the proverbial “box.” We also provided explicit criteria of evaluation, such as:

- Fostering self-regulation: as described above. This is the primary purpose of your design.
- Competing with other attractions: as described above. This is critical to marketing.
- Safety: without a child-safe product neither of the above features will work.
- Cost: this is the basis of the design becoming accessible to others.

Some members of each team were asked to be “coders” observing and interpreting the design process as it took place, using specific instructions and criteria:

“The coders’ role is to provide ‘instant’ encoding and analysis of the design process. One coder will concentrate on the ‘decisions’ made and the other on the ‘activities’ undertaken. Accordingly, design behaviours will be broken down into several aspects: design content (e.g., book, crayon, stick, etc.); design requirements (self-regulation, competitiveness, safety, cost, etc.); design representations (2D or 3D drawing, writing, calculating, etc.); cognitive processes (obtain information, infer new information, assess information).”

One of the participants designed a game based on natural language and stamps. The process of this designer is illustrated in the figure below in the form of a State Space Representation, which shows all significant content items brought up during the design process and the transitions between them. Some of these transitions indicate how the designer forges ahead with a design idea elaborating and refining it. Others show how the designer gets stuck and retracts to earlier steps or starts over again.

Another change we implemented in the 2008-RTS Session was the restructuring of the lectures to follow a theme of “seven seminal” aspects of the subject area: models, methods and data venues that highlight design cognition research. These included:

- Ill-definedness: complexity, search, pairwise integration
- (Re)-defining the solution space ~ creativity
- Chunks: units of human memory
- Effect of the media: sketching and process management
- Process models: xtreme-design, out-of-the-box thinking
- Knowledge and expertise: procedural vs descriptive knowledge
- Pedagogy: abstract vs concrete problems

The lectures started with the introduction of these concepts. It went on to outlining the research efforts in each of these venues of inquiry as they apply to architectural and engineering design. Next, we described the methods used in these areas of research that structure the manner in which design research may be forged. Finally, we presented tangible examples of the data that is gathered in these research activities. In each stage, the participants were asked to complete relevant, hands-on tasks to keep a reality-check on the theoretical material presented.
Yet another change from the 2008-RTS session has been the condensing of the lectures into a smaller time frame allowing more discussion and flex-time for impromptu seminars and presentations. One of these, a highlight of the session, is the real-time analysis of the design task and analysis of its cognitive parameters. In this analysis, we presented to participants a sample analysis of the data collected in their design task, illustrated in the above figure.

Finally, we developed research proposals further than before with the streamlined use of the controversial but useful “elevator pitch” task, which facilitates the sharpening of the research proposal of each participant. In the elevator pitch task, a proposer is placed in a situation in which they have to explain a research idea in a very short time (say 2 minutes), using ordinary words, and avoiding jargon. Other participants in the session are asked to understand and interpret the research pitch. The exercise places participants on the spot but achieves much needed streamlining and clarification of research proposals developed during the RTS session.

On May 24th, we left the 2008-RTS session with a sense of fulfillment. We shared interesting and useful insights about the history of cognitive design research; the milestones of significant achievements; methods of experimental design, data collection, and data analysis; and the passions and interests of an extremely capable and creative group of participants who are acknowledged on our website: http://www.designcognition.info/about.html. This was indeed an exceptional group of designers—architects, engineers, and IT specialists who exhibited a variety of interesting cognitive skills. This inspired me to leave you with the following description of the distinctions between designers, scientists, architects, and engineers, from an article I wrote a decade ago, which has been instrumental in my being invited to the RTS sessions, in the first place:

“A well known and overused joke about the profession says that architects begin by knowing a little about a lot of things and end up knowing nothing about everything; conversely, engineers start by knowing a lot about a few things and end up knowing everything about nothing. Most see the humor in the joke and some appreciate a degree a truth in it. At the risk of abandoning the humor I would like to talk about another distinction which should get us closer to cognitive issues.

I claim that the profession of architecture rewards the heart while the engineering rewards the brain. Architects who win awards and reach the highest levels of the profession do so primarily because and in spite of the foolish risks they have taken. Some examples would include the Sydney Opera House, Centre Georges Pompidou, and the Fallingwater. In all of these cases architects have ventured into the unknown territory of structural design, systems design and weather protection and by some accounts have failed miserably. Yet their works are considered masterpieces from which countless generations of young architects learn that all but unreachable glory of creating another Guggenheim Museum or Ronchamp Church is worth overriding the tenets of rationality in their work.

Engineers on the other hand have been condemned for the heartless mistakes they have made in service of a blind trust in their technology; as in the cases of the Hartford Civic Center, the Tacoma Narrows Bridge, and the Kansas City Hyatt. In these cases, engineers were shielded by their professional authority from questioning and being questioned about their designs in spite of concerns raised by field observations (Akin, 1999). Somehow the results obtained through objective methods, however abstract and limited in scope, we’re allowed to override the tragic results foretold by seemingly spurious evidence.

Due to my work with architects, I looked and am confident that architects do have brains (let’s reintroduce a modest amount of humor). Likewise it is easy to imagine that engineers have hearts, as well. It is a matter of re-thinking our priorities in architecture so that we have architects acting only after they filter with their brains what their hearts are telling them. In this paper, I will try to describe what the brain (rather the cognitive system) of the architect is able to do and is urged to do by the domain of problems she is accustomed to deal with. This is not to say that there are biological or physiological differences, or even fundamental intelligence related differences between architects and others. I believe it is all a matter of ethos and culture fostered in a given profession and its educational philosophy and the predisposition of those who chose to be in it.

Before moving into the behavioral variants and invariants that distinguish the cognition of architects, let me make one more general observation about them. Architects as opposed to scientists stake their claim on the basis of situated persuasiveness. They argue not that their solutions are absolutely inescapable but that they are the most supportable ones under the circumstances of given problems. Change any assumption, the solution could change. Even under the same set of assumptions, there is no assurance that the selected solution is the best one since the resources allocated to architectural projects are insufficient to exhaust all possible solutions. Therefore the architect has to make her stand on the basis of persuading others (clients, owners, users, public officials, consultants, financiers, contractors, and developers).

Under the circumstances, the solution they foresee has the promise of satisfying the requirements of the problem.

This is far different from the stand of the scientist who must make an argument on the basis that all other conceivable possibilities have been refuted or the engineer, for that matter, who relies on objective measurement of the best by virtue of optimization. Karl Popper articulates the scientist’s mode of operation as the theory of Falsificationism. The only way of knowing if a scientific theory would hold is to put it to the most stringent tests. This requires that the scientist sincerely and vigorously become an antagonist to her own theories. By being
The severest critic of them she has a chance of eliminating the worst criticism that can be thrown at them. This is a quest of search for the truth, the absolute truth. The truths that architects and to an extent engineers seek are temporal ones at best.”


The 2009-RTS session on “design cognition,” which we are already planning, will have all of the main features of the earlier sessions we described above: three hands on tasks to be carried out by the participants including a design task, just-in-time analysis of the data obtained from one or more participants, three lectures and two seminars to provide background information and free wheeling discussion about design and design as research.

In addition, we will pay greater attention to two features: tapping into the ongoing research work of the participants and the “design as research” theme that stitches all RTS sessions together.

Before we start the lectures, we will devote a session to the discussion of participants’ ongoing research work. We will connect these research interests to the hands on exercises that we conduct. We will modify the contents of the lectures to emphasize how design can become research – under which conditions and through which attributes – along with the conventional emphasis on what is formal research and how it can be applied to the field of design.

Omer Akin, Pittsburgh, September 29, 2008

http://www.designcognition.info/about.html
Ending up Reflecting: the story of the student who missed the point.

This is a story about myself and reflection. I can tell this story because I have learnt about reflection, especially to value it. It's the story of a shift in appreciation, from being brought up in the context of, and embracing, scientific determinism, to understanding that science is but one form of description through which we attempt to make sense of what we come to call a world constructed from and in our experience. That behind this is a different way of knowing and of making sense, which we call design.

For me the process began, formally, with the discovery of cybernetics, at just the time it was transforming into second order cybernetics; and through writings such as Feyerabend's 1975 and de Saussure's 1966, showing us something of representation. Informally, it had begun when I first asked questions at the onset of teenage angst. And operationally, I believe the way I acquired concepts and then built them together was always in this manner.

I write this sketch here because I believe this story has a sort of general validity today. We have made a world in which, even if science no longer quite has the cachée it once had, we look for the determined and the determinist; a world in which even the researchers into design wish to reduce it rather than to celebrate its wondrous otherness. It may be that the reader will identify with what I write, or, better (from my point of view), realise (s)he knows it all already and acts accordingly, wondering what all the fuss is about.

It is the story of someone who was educated in a world of rationalist realism found that enquiry, intuition, experience, logical argument and observation took him away from this and brought him to reflection and construction, and that form of cybernetics known as second order.

This is the story of one who learnt the saving value of reflection through the realisation that he had always been reflecting, although he had not realised it.

The '60s

As a student, I could not understand my teachers who instructed me to make "sketch" models. I had it in my mind, perhaps as a consequence of the sorts of model kits that boys bought to make perfect shiny aeroplanes and such like, that a model was always perfectly finished. I saw architectural models as surpassing such perfection. The pristine abstraction, the white formalism of card supported by beech, the abstraction of the landscape into contoured wooden slabs, was, for me, de rigueur. How could an architectural model be otherwise?
Perhaps this related, too, to the time in which I grew up. Before sex ‘n drugs ‘n rock ‘n roll and dreadful haircuts liberated us in the ’60s, post-war western society was mechanistically technocratic. The technoptimism that survives today in the USA, parading itself as “can-do”, and a disregard for the frightening climatic changes we are possibly living, possibly dying through, held that there would be unlimited cheap energy from nuclear power stations, and that scientists had placed us on the verge of understanding everything: of having the ultimate answers. The knowledge science brought us was, as we did not then understand, mechanistic and reductive, itself the result of acts of tremendous simplification both limited and excluding. Its view of the creative human was not exciting. Goodness, how we needed sex ‘n drugs ‘n rock ‘n roll.

Of course this is an oversimplification, but it comes close to my experience, and it deeply influenced how I understood the world: it was predictable, it was a machine, I was in control and could do anything if I really wanted to with this machine (and with myself), and the world could be optimised. If I could only state the question properly, the result would be uniquely and automatically produced: architectural form would emanate from proper functional specification: the building was, literally, Le Corbusier’s “Machine for Living” that accommodated and expressed this. You can imagine how my designs were, and how much I needed those sex ‘n drugs ‘n rock ‘n roll. I really did believe in the Ulm/Design Research approach which was furthered at that time, in the UK, by the Design Research Movement and the work of Bruce Archer at the Royal College of Art. I had no understanding of the medium that is space, the medium that constitutes architecture, of the architecture of delight. For me, architecture was the outcome of a mechanical, scientific process that resulted from proper definition. It could be done in one shot: define, run the processes, build the output. Nothing about the poetry of space, the poeisis of designing. That was it.

So how could there be a sketch model?

Models

You don’t need to tell me I was pretty confused, and full of contradictions. I know it, now. But there are many working in design even today who don’t recognise the confusion and contradictions, who didn’t have the chance of the lessons that I was offered.

One of these lessons, the most important from the point of view of understanding the sketch model, came from Gerard de Zeeuw, at the time we worked closely together.

De Zeeuw talked of two sorts of models. The first will be instantly familiar as the sort of model I was describing: the pristine abstraction described above, the perfect outcome. This is what de Zeeuw called a “model of”. What is a model of? It is a model of something. That is to say, it is a model that models how things are: it is of, as it were, “the world”. It implies no action, it is just related precisely, in a one-to-one manner, to that which it models; but it is also a simplification, only concentrating on the aspects of that which is modelled that are judged to be of interest and significance. (Judged by who, you might ask? In our case, judged by the architect. Notice that in making a model the modeller is involved, choses, shapes, simplifies, etc.)

De Zeeuw’s second sort of model was, to me, far more liberating. He talked of a “model for”. What is a model for? It is a model for acting, not for recording the world as it is, but for changing it. And that is what designers do: we change the world. So a model for is not about what is, but about what might be: it is a way of working out how to create a change: a model for change. This is the sketch model I could not understand when I was a student, but which de Zeeuw’s little formulation made immediately clear to me. Now I could understand the sketch model.

(Of course, and as a sideways remark in a very small font size, this was more than 20 years later, and my thinking had changed as well: I no longer considered that architecture could be produced by definition and mechanism: indeed, I no longer thought much could be made that way.)

Unfortunately, de Zeeuw has not written a central text about these two types of models (nor do I remember when I first heard him talk of them, but it must have been around 1987), so the presentation and interpretation is left to me. For me the difference is between recording and acting, and designers are actors. We do not say what is, we create what will be by changing (or in order to change) what is. Some believe that, in order to change, you must know what is. But architects are good at acting to change, and produce beneficial change, often with very little concern for what is. I would say that the nature of the change becomes apparent after we have acted, as what we come to treat as the solution, in design, determines the problem.

In fact, de Zeeuw’s simple expedient was nothing more than to exchange prepositions. And in this expedient, he was followed, without doubt unknowingly, by others, amongst them Christopher Frayling. In 1993, Frayling 1993 made the distinction between research into design; research through design; and research for design—another telling prepositional exchange which has been quoted throughout the design research literature.

Prepositional knowledge

I like to tell a story about a student who came to to study for a doctorate at one of the universities I work with. Simply put, she was sent to meet me early on, and told me her project was to make architects use a sustainability package she had access to. It turned out she had no understanding of what designers do, so I sent her on a design
Aristotle divided types of knowledge into five classes. More recently we have seen many ways of dividing knowledge into types. Of course, the Greeks wanted to create the new, to change the world, and to get directly to its conversion. In fact, I believe most designers are not much interested in what is: as knowledge for. They are not so interested in knowledge of and its conversion. In fact, I believe most designers are not much interested in what is as I wrote above, they want to create the new, to change the world, and to get directly to that.

There have been many ways of dividing knowledge into types. Of course, the Greeks did it: Aristotle divided types of knowledge into five classes. More recently we have had Polanyi describing the “tacit” knowledge of the designer. The Poles, in particular, have a whole field about the theory of action, Praxiology. My main claim for the distinction between knowledge of and knowledge for is that it is very easy to grasp, has an intuitive clarity, and shows explicitly an enormous difference in intention. This difference can explain much about the difficulties scientists and designers have in understanding each other (for the types of knowledge and interest in the world are different), and the massive irrelevance of the vast majority of design research (carried out, in the large part, by non-designers on the outcomes of designing rather than the activity that designers do) to designers designing.

As such, I find the notion of knowledge for, in contrast to knowledge of, powerful and telling, and believe we should concentrate considerable effort on understanding what is implied by the distinction, and how to create and work with knowledge for: that is, to research in and into knowledge for.

Transfer knowledge

Nevertheless, we have a lot of knowledge of, and (as far as I know) we don’t yet have much explicit knowledge for. It is both important and economic that we consider how to move knowledge of to take, whenever possible, the form of knowledge for, in order that we can benefit from the prodigious, communal effort this knowledge of represents.

In this, we have been fortunate, recently, that the development of the computer hardware and software has given us easy access to a speed of calculation that can sometimes turn knowledge of into knowledge for.

One of the prime devices that helps here is the spreadsheet. I characterise the spreadsheet as a what-if program. It allows me to change (numerically quantifiable) values of variables within a (mathematical) model so that I can see what happens, and to do this instantaneously. (When I had to do this by hand, it took a long time). Because of the speed of calculation, I can change values and get new results immediately, where it used to take half a day working by hand. With a little automation, it becomes possible to give a range of outcomes and to carry out some optimisation. I can thus develop pathways that will take me closer to what I’m aiming for—providing that what I’m aiming for is definable and enumerable.

What has changed here is not so much the form of the knowledge as the speed of calculation (and the means of modelling), which allows the practical generation of many alternatives. This change of behaviour resulting primarily from computational speed is, perhaps, similar to the change in behaviour that allows the relationship between computer and user to seem interactive. In this respect, the process is a process of translation, with the original knowledge of remaining in its original form, but with a translation into knowledge for. The speed of calculation allied to the what-if character of the spreadsheet makes it usable as if the knowledge of had been translated to become knowledge for.

The ability the spreadsheet can give us, traditionally, an area of expertise: indeed, one reason we had experts was especially to do this—to carry out the translation. The structural engineer had managed to internalise what we often call a “feel” for the subject that allowed good initial suggestions and an efficient means of improving these. This professional knowledge, a form of tacit knowledge, that translates knowledge of into knowledge for, is the outcome of experience and learning: a form of practice that was promoted by Donald Schön (1983) as central to professional practice.
Reflection

So far, I have studiously avoided use of the r-word that permeates the Research Training Sessions at Sint Lucas, and which provides the theme for the workshop Adam Jakimowicz and I run together, which this text introduces. That word is reflection.

Reflection indicates careful and deep consideration (in my mind, this is often somehow transcendental, and not necessarily logical or conventionally reasoned), and it also indicates a throwing back. As such, it suggests that it is possible to come to a deeper understanding by considering and then considering again (honestly, critically and creatively): a recursive, circular action that depends on feedback, and or rethinking. It is clearly, therefore, at heart a cybernetic activity, although we do not need to discuss the cybernetics of reflection here.

As a way of acting, reflection (or the reflective action of professionals) was brought to the fore by Donald Schön in the 1980s. Schön argued that professionals (including especially designers) had a way of thinking and developing their expertise, skill and understanding that was not based on conventional academic study, but on what he chose to call reflection-in-action. He held that this process of reflection was common in professionals as an important means by which they could develop deep, critical understandings of their work, so that they could learn from their mistakes and generally improve the quality of their actions.

Reflection is one way, perhaps the one way, of acting to develop what I have called knowledge for (rather than translating it from knowledge of). It is a way of acting that acts on ways of acting (it is reflexive, and, again, cybernetic) in order to develop, improve and sometimes renew those ways of acting. As such, what it makes in each reflective practitioner is knowledge for acting: for acting in the world to change it, and for acting on the practitioner’s ways of acting to change them for the better.

We are just beginning to find ways of explicitly and actively encouraging reflection, and to build a collection of means for developing reflection in designers. We are not determined to restrict ourselves to reflection as the only way of acting to generate knowledge for in the context of design: we look actively for other means. Maybe some of what we have done in our workshop counts as means other than reflection: the boundary between them is certainly worth reflecting on.

But when we develop methods and techniques, we have to be wary. The reflection is not in the methods and techniques, but in how we consider them, using them to generate questions and understandings. Reflection cannot be replaced by mechanisms, which can do nothing more than facilitate. It is we who reflect and is we who must learn to reflect better, to more effect. We are unavoidably involved. And that, again, is cybernetics.

Ranulph Glanville

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(Endnotes)

1 or will be: the assumption in the word project is a throwing forward. Architects are time travellers: we talk of projects, that are yet to happen, as if they had happened already, in the past. The architectural model of is supposed to show us what will be, as though it already existed. In abstracted, formal perfection, of course.

2 In the Nicomachean Ethics, he names five faculties of the human soul to grasp the truth: episteme (science), techne (art or producing), phronesis (practical wisdom), sophia (theoretical wisdom) and nous (capacity to grasp first principles). See http://en.wikipedia.org/wiki/Nicomachean_Ethics (accessed 1 January, 2009).

3 It is amazing how powerful the change of a preposition is, in English. See Glanville 2005.

4 The definitions and quasi-definitions I use in this article are based on the Oxford Dictionary of the American Language supplied with the Apple Mac operating system, OS 10.5.6.
Why / How Design Research?

1 Introduction

This text is largely along the lines of the workshop. It reflects its general structure and aims at emphasizing and clarifying the tutors’ basic assumptions and intentions and, furthermore, at a critical reflection from some temporal distance. The main questions were why and how design research?

Why design research?
What is the relevance of design research? For whom except for design researchers?
- a conversation collecting factors / variables relevant for the question,
- systemic modelling of the issue,
- discussion / analysis of the systemic model,
- conversation and conclusion regarding “why”.

How design research?
What are the paradigmatic models of design research? Which one is my own approach?
- research FOR / ABOUT / THROUGH design, practice-based research,
- models of research, my (the candidate’s) own model of research,
- MAPS as an example, critical discussion of MAPS,
- conversation and conclusion regarding “how”.

Broadly speaking, the workshop approach can be characterized as “systemic”, which means that design is conceived as a human activity which aims at the creation of fits between artefacts / systems, which can be controlled by the designers, and the contexts in which these artefacts function. These contextual systems, which are in feedback relations with the artefactual systems, are either under the control of other actors or show an uncontrollable behaviour per se. This view implies that design, in the first instance, deals with the creation of interfaces instead of artefacts. The latter are just the media / agents that allow for the creation of these interfaces. This view goes back to Alexander (1964) and Simon (1969) for the main part.

Due to the fuzzy and, at the same time, extremely vast subject matter of design and due to the relatively short academic history of design research it seems to be helpful to consider the question of design research as a design problem in the way specified above. That means we tackle the issue from the internal (the researcher and the research process) and the external (the social and academic context) perspective at the same time and try to find out what promotes and what constrains design research respectively. We are looking at the design of the interface of the system of design research and its contextual conditions, aiming at improving the fit.

Thus the following reflections can be considered as a prototypical example of the very early phases of a design research process, the “problem design” phase, as one might call it.
2 Why design research: collecting variables

This course of action is based upon the assumption that there is something like a (social) system, which might be called “design research”, which exists in the context of other systems. Social systems consist of communications (Luhmann 1984) and social systems create and establish discourses that might form the basis of a (new) discipline (Krippendorff 2005).

Here we adopt the method of sensitivity modelling (Vester 2007) in order to establish a model of the subject matter at hand and thus to create a common understanding of the problem. The first step consists of a collection of the essential variables that describe the system. Even more important is the generation of a shared understanding of these factors. Only if the stakeholders (PhD-students and tutors) agree upon the variables and their descriptions and meanings, it is possible to utilize the model as a kind of common framework for the more detailed and individual research questions.

<table>
<thead>
<tr>
<th>Name of variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 need for mode-2 approaches</td>
<td>need for new non- or trans-disciplinary approaches for tackling today’s problems of organized complexity</td>
</tr>
<tr>
<td>2 knowledge of design processes</td>
<td>analysis of processes in order to make them more efficient, understandable, communicable</td>
</tr>
<tr>
<td>3 design research paradigm</td>
<td>acknowledging that there is a specific research paradigm for design</td>
</tr>
<tr>
<td>4 academic status of design</td>
<td>acknowledging the hermeneutic / undetermined / evolutionary character of design</td>
</tr>
<tr>
<td>5 strength of design lobby</td>
<td>acknowledging of design and design research in comparison to older and more established academic disciplines</td>
</tr>
<tr>
<td>6 political support</td>
<td>political support, funding for design research</td>
</tr>
<tr>
<td>7 design research education</td>
<td>quality (and quantity) of design research education</td>
</tr>
<tr>
<td>8 human/ social/ cultural change</td>
<td>breeding astonishment, create exceptions from the rules, generate improvements, open up the variety of choices</td>
</tr>
<tr>
<td>9 benefit for career</td>
<td>career move</td>
</tr>
<tr>
<td>10 personal improvement</td>
<td>improving status, appreciation, income</td>
</tr>
<tr>
<td>11 personal conditions</td>
<td>curiosity, new horizons, satisfaction, fun</td>
</tr>
</tbody>
</table>

Table 1: List of variables and descriptions of the issue of “why design research?”.

3 Why design research: developing systemic images

In the first instance these variables are just an unwieldy and not very meaningful collection of information generated by a group of stakeholders. In order to make the system “talk” we have to develop the model further.

An image of the variables, including their interrelations contributes to the more holistic understanding of the issue at hand. Fig. 1 shows a systemic image, which connects the variables by means of continuous (indicating an influence of the first variable on the second one in the same direction) and dashed lines (influence in the opposite direction). Further symbols denote time-delays of impacts.

Furthermore, it divides the variables into personal (9, 10, 11), academic (2, 3, 4, 5, 7) and contextual (1, 6). No. 8, “human / cultural / social change” can be considered as the main purpose of the design research system. Of course, this purpose is not at all indisputable, but it clearly demonstrates that design and design research is inevitably value-laden, even in the stage of modelling the system of interest. By the way, the choice of, for instance, ”knowledge production” as the purpose of design research activity, which appears to be much more “scientific”, is an ethical choice as well.

4 How design research: Visualizing own approaches

The common modelling, which provided us with a kind of general framework of the problem at hand, was interrupted for the creation of the individual approaches and models. Figs. 2 a, b, c demonstrate the beautiful and highly individual representations of the candidates’ research themes and processes. The discussion of the individual approaches took considerable time, but is not reported here.
The common ground or the basic paradigm of the different approaches consisted of the practice-based character of the research projects. That means that new knowledge is generated by means of a design process, or, that it is the design process and not the scientific process which provides the general structure of the research project. The design process guides and orchestrates the utilization of various scientific theories, methods and tools in order to achieve the design and the research aim. Jonas (2007) has presented a cybernetic model of a generic design and research process, consisting of Analysis, Projection and Synthesis, which further clarifies the concept of "research through design". MAPS (Matching Analysis Projection Synthesis, see Chow and Jonas 2008) is an instrument, based upon this model, which helps designers and researchers to configure designerly research processes: http://www.design-research-lab.org/MAPS/.

The debates concerning the useful- / uselessness of MAPS provided us with valuable information regarding the further development of this instrument.

5 How design research: MAPS presentation & critique

Figs. 2 a, b, c: Representations of candidates’ research themes and processes.
6 Why design research: Analyzing the common system model

The workshop process turned out to be a repeated change of perspective on the subject matter. After the discussion of the individual approaches and the appropriateness of MAPS we turned back to the general model and tried to go into deeper analysis.

By means of a cross-impact analysis of all variables from table 1, which was an intensive and time-consuming process of negotiation and clarification, we differentiated the relations between them. The software tool allows to specify no impact (0), slight impact (1), medium impact (2) and strong impact (3) of one variable on another.

As an automatic outcome of the time-consuming cross-impact process we get the so-called systemic role of each variable (fig. 3). The diagram is a striking example of the well-known systemic insight that it is not the element itself which determines its particular role in the system but the relations between them. We can differentiate active variables (influencing the system, useful as levers), reactive ones (being influenced by the system, useful as indicators), critical ones (influencing and being influenced, to be handled with care), buffering ones (stabilizing the system) and neutral ones (supporting the self-regulation of the system).

Table 2 provides standard descriptions of the roles of the variables, generated by the software. Each of the coloured fields in fig. 3 is connected to an interpretation, which has been developed from the experience gained in numerous applications of the tool. Some of them are evident, some give rise to reflections, some seem to be questionable. It has to be emphasized here that all these interpretations are based upon the system model as constructed by the participants of the workshop. That means that it is not the software system but the user who is responsible for the assessments. Oddities and inconsistencies may point to improper variable descriptions or inappropriate assessment of impacts, etc. In any case they indicate that further reflection is necessary.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Role of the variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 need for mode-2 approaches</td>
<td>Neutral section between active, reactive, buffering and critical. There are little means to steer the system via the components of this area which are on the other hand wellfitted for self-regulation if integrated in feed-back cycles.</td>
</tr>
<tr>
<td>2 knowledge of design processes</td>
<td>Rather active but slightly critical steering lever which will not be untouched by the repercussions of its own interventions. It therefore should be kept under control even after its use as a lever.</td>
</tr>
<tr>
<td>3 design research paradigm</td>
<td>Interventions in components of this section often cause pendulum movements which may compensate rather soon corrections in the system. A control of this selfdynamics (which may stop a wanted development) will be better carried out from outside the system.</td>
</tr>
<tr>
<td>4 academic status of design</td>
<td>Changing this critical component may cause trouble because of its equally strong activity and reaction. If not intended to give a strong initial impact it has to be bount in feedback-cycles when modified.</td>
</tr>
<tr>
<td>5 strength of design lobby</td>
<td>Extremely critical component. By intervening here uncontrolled amplifying or tipping over can hardly be avoided. Therefore extreme caution! Only to be used as an initial ignition in extremely frozen systems and safeguarded by negative feedback.</td>
</tr>
<tr>
<td>6 political support</td>
<td>The already strong reaction of this slightly critical component to changes in the system - even if caused by itself - makes it unsuitable for well-directed interventions.</td>
</tr>
<tr>
<td>7 design research education</td>
<td>Slightly reactive and weakly buffering component which is contributing to the self-regulation of the system without being an indicator.</td>
</tr>
<tr>
<td>8 human/social/cultural change</td>
<td>Interventions to components of this slightly reactive neutral section very often feint desired effects which, however, will be compensated quickly by self-regulation.</td>
</tr>
<tr>
<td>9 benefit for career</td>
<td></td>
</tr>
<tr>
<td>10 personal improvement</td>
<td></td>
</tr>
<tr>
<td>11 personal conditions</td>
<td></td>
</tr>
</tbody>
</table>

Table 2: Role of the variables in the system model Sint-Lucas. The texts are generated automatically by the software tool (Vester 2007).

7 Why: Findings from the systemic model

A further important outcome, which can be utilized for improving the understanding of the system, are the feedback cycles that show up in the system model. Negative cycles stabilize a system, positive cycles have a de-stabilizing effect leading to growth or decline, respectively. The cycles themselves do not say anything. In order to make them talk we have to interpret them.

One way is to create a narrative / an argument from the sequence of numbers. Our aim as designers is change (to the better). So let us select one of the positive cycles from table 3 that includes the ethical variable 8 (human / social / cultural change). We might ask what supports the achievement of this aim and how is this related to other individual and professional aspects in the system?

3 - design research paradigm ➞ 4 - academic status of design ➞ 6 - political support ➞ 11 - personal conditions ➞ 8 - human/ social/ cultural change ➞ 5 - strength of design lobby ➞ 7 - design research education ➞ 3 - design research paradigm.
What kind of narrative might flesh out this cycle? For example:

In the design research community we experience the struggle for a design research paradigm (3). Roughly spoken there are the "scientists", who want to adopt scientific standards for design research on the one hand, and the "designers", who are looking for a specific designerly model of knowledge production. The academic status of design (4) might be supported by both approaches, but one might ask whether the "scientific" way is a promising long-term strategy, which leads to a new culture of research through design. Political support for design research (6) will benefit from the academic status, of course. This, in turn, definitely improves the personal conditions of design researchers, that means their organisational and financial conditions (11). And now we have a somewhat precarious assumption, which appears a bit like wishful thinking: Does a better personal situation of design researchers really have a positive impact on human / social / cultural change (8)? Or is this an overestimation of our capacities? If design is able to improve the conditions of living, then this probably strengthens the design lobby (5), which has a positive impact on design research education (7) and, finally, contributes to the development of a design research paradigm.

<table>
<thead>
<tr>
<th>Negative Feedbacks (9)</th>
<th>Positive Feedbacks (27)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-6-11-8-1</td>
<td>4-7-4</td>
</tr>
<tr>
<td>1-6-7-2-8-1</td>
<td>3-4-7-3</td>
</tr>
<tr>
<td>1-6-7-11-8-1</td>
<td>4-5-7-4</td>
</tr>
<tr>
<td>1-6-7-4-9-11-8-1</td>
<td>4-6-7-4</td>
</tr>
<tr>
<td>1-6-7-3-4-9-11-8-1</td>
<td>2-3-4-7-2</td>
</tr>
<tr>
<td>1-6-7-4-5-9-11-8-1</td>
<td>3-2-5-7-3</td>
</tr>
<tr>
<td>1-6-7-3-4-5-9-1-11-8-1</td>
<td>3-4-6-7-3</td>
</tr>
<tr>
<td>1-6-7-2-3-4-5-9-11-8-1</td>
<td>4-5-6-7-4</td>
</tr>
<tr>
<td>4-9-11-8-5-7-2</td>
<td>5-6-11-8-5</td>
</tr>
<tr>
<td>5-7-11-8-5</td>
<td>5-9-11-8-5</td>
</tr>
<tr>
<td>2-3-4-5-6-7-2</td>
<td>3-2-3-4-5-6-7-2</td>
</tr>
<tr>
<td>2-8-5-6-7-2</td>
<td>3-4-5-6-7-3</td>
</tr>
<tr>
<td>5-6-7-11-8-5</td>
<td>2-3-4-5-6-7-2</td>
</tr>
<tr>
<td>4-6-11-8-5-7-4</td>
<td>4-9-11-8-5-7-4</td>
</tr>
<tr>
<td>3-4-6-11-8-5-7-3</td>
<td>3-4-9-11-8-5-7-2</td>
</tr>
<tr>
<td>4-9-11-8-5-7-2</td>
<td>2-3-4-9-11-8-5-6-7-2</td>
</tr>
</tbody>
</table>

Table 3: Negative and positive feedback cycles sorted by length (Vester 2007).

This short line of arguments along the feedback cycle, together with the findings in fig. 3, illustrates possible points of intervention. It also shows our bias towards unproven assumptions or even commonplaces that have a long tradition but are nevertheless highly disputable (such as: designers will create a better world). Since this was a positive cycle, the same argument would hold for the dynamic of decline in a vicious cycle. Unanswered research questions show up in each relation.

A closer look at the feedback analysis reveals that negative cycles, which stabilize the system, all include variable 1 (need for mode-2 approaches). This aspect is still rather unclear, but it suggests that it is only through a broad consensus about the urgent need for a new understanding of the function of science in society that design thinking and design research will find a broad acceptance and a stable role as a human / social / cultural change agent.

8 Why & How: Lessons learned?

Why design research? For many different reasons. How? In a designerly way. And else:
- design research issues have to be embedded in wider social contexts in order to attain useful outcomes,
- it makes sense to design the research process as a design process,
- the design debate benefits from structuring tools that contribute to the creation of a common ground,
- “why” (the ethical perspective) and “how” (the pragmatic perspective) are closely interconnected, the tools make this transparent,
- the tools have to be presented as C2 communication instruments, not as C1 solution machines,
- strategies for design and research can be developed / designed by means of the tools,
- commonplaces are still present in the debate,

Wolfgang Jonas

References
Luhmann, Niklas (1984) Soziale Systeme, Frankfurt / Main, Suhrkamp
Vester, Frederic (2007) The Art of Interconnected Thinking, MCB-Verlag
Practice Based Research or Research Based Practice?

According to linguistic philosophers, many discussions appear to be merely verbal. The discussing partners believe they have different views on essential questions, but after the intervention of a philosopher with some competence in linguistic analysis they appear to understand different things by the same words. Once they have discovered this, they agree about which word should have which meaning, and that should be the end of the discussion. Once they have learned to take the same meanings for the same terms, their discussions can be to the point and deal with essential and no longer with merely verbal questions.

In the debates concerning research in the arts the distinction between research based practice and practice based research might be termed as a merely verbal one. Both expressions seem to have the same referent that can be termed in a more neutral though less elegant way as research in the arts: what people engaged in both artistic and academic circles use to do or are supposed to do. Both expressions have the same referent, which might seduce us to consider them as being identical. Something in the line of: the morning star is the same star as the evening star. They have the same referent, so why discussing about a possibly different meaning of both expressions?

Still, verbal expressions are not as innocent as a certain number of linguistic analysts suggest. For an astronomist there might be no difference between the morning and the evening star, but for someone who might not be that serious about the identification of stars in heaven, but who is about the different moods in which we look at the stars early in the morning and late in the evening, for a poet e.g., the morning star can have quite a different connotation as compared to the evening star – both expressions still having the same referent. And it might be worth while discussing about the difference of both connotations, which persist in spite of both having the same connotation.

And as for the kind of academic business art schools are supposed to organise, it might be worth while dwelling with the difference between terming it as practice or rather as research in the first place and with that between taking research as a base for practice rather than practice for research in the second place. The more, because the explications in this field have a tendency of being prescriptive rather than descriptive. They do not just tell us how research or practice actually looks like; they are supposed to tell us how they ought to be.

From an organisational viewpoint it is tempting to speak in terms of practice based research – and that’s what mostly happens in discussions on the subject. The government wants us to organise art schools in accordance with the model of universities; that’s what administrators seem to mean by the academisation of art
schools. In so far as contemporary universities have a triple mission of teaching, of
doing research, and of contributing to the welfare of society (e.g. by popularising
results of scientific research or by giving (and selling) science based advice to
governmental administrations or private companies), from now on art schools should
have the same or at least a similar mission. And since teaching and social engagement
belong to the very tradition of art schools, it is research that seems to be the topic in
need of being initiated or at least of being further developed.

Research is the new slogan, so it seems. And since art is never merely theoretical, this
research needs to be practice based. A bit like medical and architectural sciences must
be practice based. It is not by accident that Aristotle had a particular preference for
both medical and architectural sciences as examples of practical (or poetic) sciences,
which, according to him, did not just require a theoretical understanding of general
principles but a lot of (practical) experience as well. In such a schoolish context, there
is nothing against talking in terms of practice based research.

Still, this schoolish perspective, which forces professional and/or artistic education
into the corset of what some, with a bit of ill will, might term as academism, brings
along some misrepresentations as soon as the artistic perspectives are lost of sight. An
artist might need some theoretical skills; these might require some research; and this
research will not be merely theoretical, but practice based, sure. But, if we consider
an artist doing research in the arts, he will always remain an artist in the first place.
He did not become an artist in order to be a researcher. No, his research is a function
of his artistic practice, not the other way around. Without the artistic scope, without
the art work, the research is missing its objective. If the research does not result in the
creation of art works, and, if possible, in interesting art works enriched by the research
activity, it is either vain or a mere copy of the common theoretical research activity
in art or philosophy faculties. I assume everybody will agree about this, but it is not
unimportant to keep it in mind. The notion of research has some kind of aura that
is connected with the old aristotelean perspective that the desire for knowledge, and
the research that leads to it, have a kind of intrinsic value. Artists who are engaged in
research might forget that the research is a function of artistic creativity; and, what is
worse, academic people might have expectations towards artist-researchers they will
never be capable of redeeming. Becoming a doctor in the arts requires good artistic
practice in the first place; and a practice that is based on – i.e. supported by, inspired
by, enriched by reflections that should not be isolated from the practice itself. The link
with practice should not be obsessive – sometimes it is necessary to loosen the reins
for a while – but artistic practice, not research as such, should be the objective.

Therefore I prefer the expression of research based practice to that of practice based
research. The expression might not be as fashionable as the other one – research
is very in today –, but it is both more honest and more adequate. It recalls us that
artists who are interested in reflecting on there own and other’s activities, should
remain artists in the first place. There is nothing wrong with research, sure, but we
simply want artists to remain artists. If research makes their work more interesting,
perfect, but even then, we should avoid falling into the pitfall of considering research
as a solid, one way basis of artistic practice. Research will never be a sufficient nor a
necessary condition for being an artist. In that sense the expression of research based
practice is not that innocent either. Therefore, let’s nourish the distrust in words. Alas,
most of the time we have to turn to words in order to express this distrust in words.
The discussions will never end – and that’s how we want it.

Paul Cruysberghs
RTS 07 session
PARTICIPANTS AND TUTORS ALIKE:

BY DESIGN FOR DESIGN

OPENING FRIDAY 5TH of September 2008, 18:00
HWNK DEPT. OF ARCHITECTURE SINT-LUCAS, BRUSSELS

Show Time:

This RTS session was designed as a show time and exhibition.

All activity was concentrated into one dense and energetic Friday 5th of September, starting off with the set up of the displays and a coffee and ending with the opening of the exhibition to a larger public. All discussion and work sessions that day evolved exclusively around the visual material displayed and got rhythm by refined culinary experimentation.
08:00
mirror tables - designed to reflect the displayed visual materials as well as their respective authors

08:30
prefigurations of possible final displays and public outputs of running research projects

09:00
show time and exhibition – participants and tutors together on the billboards

09:30
design menu – Petit Déjeuner Garcia – a fine and hearty experimental cuisine will rhythm the whole day’s session

10:00
loud table reading – deciphering displays without any received verbal or literary information – what do the displays tell us about the role of design in research?

10:30
tutor shuffle - tutors move between groups, their displays are also subjected to table reading…

11:00
design menu – Soupe De Céleri-Rave Et Epinards Avec Soja Aux Crevettes

11:30
more loud table reading – further deciphering of displays without any received verbal or literary information – what do the displays tell us about the role of design in research?

12:00
design menu – Sushi Yamagobo

12:30
design menu – Pâtes A L’encre De Seiche Et Coquilles Saint-Jacques Au Fond De Crevettes Cava, Jambon Bayonne Et Duo Tomates

13:00
virtual shuffle – tutors manipulate the table displays in a virtual way

13:30
chaos – short readers are being attached to the displays – the intentions of the author of each display are being revealed
FROM OUT OF THE BACKGROUND

We are designers and are doing research to become better designers. I think most of us will recognize this point of view. What design can mean to research on the other hand is a question each of us will have to answer in his/her own way. This can lead very far. Probably we will have to design everything about our research. The research question and how, where, when and why we want to work on it, how others should look at the research done and further still: what after the research…

Strangely enough it is that where designers get into trouble. As if taking on the condition of research first makes them forget their designer reflexes. I certainly caught myself on this: “Will I have to speak in other formats and in an other language?” What is being expected or considered to be research by design or phd by design is not always clear and can differ a lot. But it seems to me essential that as a designer even in research you will function as a designer.

I wanted to trigger that when I got the chance to choose tutors for one of the (Research Training Sessions further in the text referred to as) RTS. And not only choose designers with an explicit researching quality to their practice to be the tutors of the session. I also considered the session as one big design, to be designed in as much of its aspects as possible.

In that way and with help of the tutors and others I have tried to make an environment, as qualitative and as energetically charged as possible, in which could take place a creative surenchère between creative people [Marc Godts]. An RTS-session as a Show Time and focused on the designerly dimensions of research. Focused on creation [on that what IVOK calls the creative part of the research project]. BY DESIGN FOR DESIGN [Marc Godts, Arnaud Hendrickx and Nel Janssens]. A session for and by design.

Show Time

An environment where tutors and participants are equally weak or equally strong. Both the tutors and participants having to tackle the same question. Both having to make a display taking on the same handicap in doing this, an even sized support for a display without words:

“Illustrate what by design means to your research by means of a display that prefigures a possible final public presentation of your current research project”.

For both the tutors and participants an environment where they can crash test a working hypothesis. If the displays have to function without words, if they have
to be deciphered without them having been verbally or literally commented first: do they work as display and carrier of information? And are display and its information relevant to the research project in question?

A designed environment that has the status and the protocol of a Show Time. Where all activity – displaying, working with and discussing what is displayed – has been concentrated into one dense and energetic, strongly rhythmic day. A day that starts with the set ups and a fine, strong coffee and that ends in the opening of the exhibition of the displays for a larger public and with a drink.

By design, for design

If you ask my opinion: Too many displays of this session did not match my expectations. In their exhibition value (as form, as display, as image, ...) and/or in what they communicated as designerly aspect of the running research project or its possible final public display. This probably sounds crude but I think that in a lot of the presented cases, the participant self would have skepticism if a student or a collaborator would bring in a similar display...

I guess some of the participants did not anticipate enough the challenge of this first exhibition or the nature of its show. And certainly were surprised on the day itself of the amount of attention and preparation that had been spent on the overall frame – the space and its scenography, the value of the tutors and their energy, the support, atmosphere and food. But that quality of frame is the best proof that the ambition of this Show Time reaches further than that what has been displayed: the stakes are higher.

At the end of the session rightly was said that such presentations should be considered equivalent to the making of an article or paper [Arnaud Hendrickx]. What asks for a form of referee equivalent to the type of referees in case of articles or papers [Sven Vanderstichelen]. This also means that stakes are high.

I see following editions of BY DESIGN FOR DESIGN in that way. Not linked to any specific batch of RTS, but as an open call for entries on display (RTS and ex-RTS, designers and researchers, international) with a type of selection mixed with guests on invitation ... I want to work for that.

Design generates through intentional repetition [Sven Vanderstichelen]. Other initiatives could complement the fulfilling of a need for intermediate show times. Show times are essential to research by design. Concise project presentations in front of a larger audience of our course group's research project and yearly marathons of brief project presentations, informative and with the whole faculty as audience are two examples [Sven Vanderstichelen].

This BY DESIGN FOR DESIGN is the first of its series. A cycle of show times with exhibition value, in the context of the Research Training Sessions and for running research and phd projects. BY DESIGN FOR DESIGN wants all possible designerly dimensions of research come to light.

Marc GODTS

BY DESIGN FOR DESIGN is a concept of Marc Godts which he further developed in collaboration with Arnaud Hendrickx, Nel Janssens and Patrick Labarque.

Background music was: HOAHIO: Ohayo! Hoahio! Japan, 2000
Design of the session, the mirror tables and poster: Marc Godts
Scenography: Marc Godts en Sven Vanderstichelen.
Guest-tutors: Sven Vanderstichelen (exhibition maker), Ben Dierckx (videographic work), Gert Aertsen (new media and technology), Melanie Munt (dancer and choreographer).
Projectsupport: VINK NV

VINK
Drie kunstenaars werden op 5 september 2008 uitgenodigd om een fase in hun onderzoek beeldend te illustreren en te toetsen aan een groepscronfrontatie met de onderzoekspraktijken van de deelnemers van de Research Training Session.

We vroegen ons in eerste instantie af wat we verstaan onder de term design. Is het design als pure vormgeving (Starck)? als een technisch ontwerp? als een mentale schets?

We kwamen er al snel achter dat de term design als pure vormgeving op deze RTS niet van toepassing was en konden deze vervangen door design “als experiment”.

Dit werd aangegeven door de werkwijze van Gert Aertsen. Hij onderzoekt zijn artistieke praktijk door te bouwen en te experimenteren. Je zou kunnen zeggen dat zijn ontwerp met zijn werk samenvalt. Elke voltooiing van een werk is een stap in zijn onderzoek. Zijn onderzoek is empirisch.

We konden enkele werkwijzen categoriseren onder de term “technisch ontwerp” en we zagen daarbij dat de deelnemers elk een ander moment in hun ontwerp toonden. De twee meest illustrerende daarvan vonden we bij Tomas Nollet en Jo Van Den Berghe die respectievelijk het beginmoment en het eindmoment van hun ontwerp toonden.

Het beginmoment bij Tomas Nollet, het moment wanneer het witte blad gebroken moet worden, werd geillustreerd met een maquette waarin de eerste stappen duidelijk voelbaar zijn. Spelen met basisvormen en kleuren (messing with media) om zo tot:

- een duidelijke beginstructuur te komen (grote vormen, basiskleuren)
- onverwachte startpunten te provoceren (experiment, messing it up)

Het allerlaatste moment van een ontwerp werd gepresenteerd door Jo Van Den Berghe. De maquette is af, los van de mogelijkheid om het ontwerp uit te voeren. Deze voorstelling had het voordeel dat duidelijk werd wat het plan...
was. Het was moeilijker bij deze voorstelling te achterhalen wat de creatieve processen waren geweeest door het (voltooide) karakter van de maquette. De creatieve processen werden geverbaliseerd naast het ontwerp. Er waren enkele RTS-deelnemers die design hadden opgevat als de voorstelling van een mentaal proces of die de voorwaarden illustreerden waarbinnen een creatief proces plaats kon vinden. Hierbij konden we schema’s en miniaturvoorstellingen onderscheiden.

Schema’s hebben betrekking op de werkprocessen in de algemeen zonder daarbij een specifiek project voor ogen te hebben. Ze stellen een methodologie voor zoals een bureaublad. De miniatuurvoorstellingen (in tegenstelling tot maquettes) verbeelden een werkproces, of de conceptuele voorwaarden daarvoor. Zo is de miniatuurvoorstelling van Melanie Munt geen maquette van een scenografie, maar is tot stand gekomen door dezelfde methodologie van haar dansproducties te gebruiken.

Meer nog naar woorden gerichte beelden kwamen van Dag Boutsen, Laurens Luyten en Ben Dierckx. Deze uitermate geësthetiseerde (gedesignde) voorstellingen van conceptuele ruimtes konden bijna als autonome werken aanzien. Zij maakten een driedimensioneel ontwerp van wat de voorwaarden voor ontwerp zouden kunnen zijn.

Deze laatste categorie bracht ons tot het idee dat dit soort voorstellingen in wetenschappelijk onderzoek zelfs tot fondsen kon leiden. In een wetenschappelijk onderzoek kunnen namelijk de ontwerpen een dusdanig karakter krijgen dat ze verkoopbaar zouden kunnen zijn. (cfr de tekening van een schilder, of de betoversie van een software).

In het algemeen vonden we in deze RTS-sessie de voormiddag het meest intens, omdat we gedwongen werden tot een ongebruikelijke confrontatie. Er werd iets meegedeeld over iemands werk en de betrokkene mocht daarop niet reageren. Daarna echter bij het gemeenschappelijk indelen en becommentariëren van de projecten werden vele standpunten erg verduidelijkt en kwam het Ben Dierckx voor ogen dat de maquette van Tomas Nollet het meest geslaagd was in het algemene opzet om een onderzoeksmoment creatief te illustreren. Hij had het moeilijkste moment van het ontwerp (de beginfase) gekozen, het spelen met basisvormen en -kleuren zonder in details te treden. volgens Ben Dierckx is dit een cruciaal moment in het ontwerp, en werd het hier treffend weergegeven...

Fournir au monde extérieur une image de son projet, et ainsi aussi de soi-même en temps qu’artiste, est une communication publique, et a un côté publicitaire / promotionnel. Le but « marketing », c’est à dire se faire connaître et finalement vendre soi-même ou le projet, est présent, qu’il soit voulu ou non, dès qu’un artiste fait une présentation publique. C’est une action vitale et quotidienne d’un artiste, mais la tâche de cette 8e session du RTS était spéciale ! Elle consistait en / elle demandait de / matérialiser un projet en cours. Un projet donc qui n’existe encore que - en larges parties que - dans l’imaginaire. Il était demandé de matérialiser un potentiel, ou une idée, et non le projet lui-même, sinon le résultat serait le projet abouti. Ou bien, pour parler de façon imagée : accoucher un fœtus sans arrêter son développement prénatal. On se rend compte de la contradiction au sein même de la tâche. C’est cette contradiction qui rendait la 8e session « design by design » du RTS si intéressante : la contradiction excite la créativité. On se retrouve face à une mission qui semble rationnellement impossible.

Cette tâche de « matérialiser sans aboutir » renvoie à une question que nous, Ben Dierckx, Gert Aertsen et Melanie Munt, trouvions intéressante : « qu’est-ce qu’un ‘work in progress’ » ou « est-ce qu’on peut dire qu’une recherche artistique a une fin ? ». Une recherche artistique ne connaît ni résultat précis ni perfection divine, elle ne s’arrête que quand plus personne ne s’y intéresse. C’est une action qu’on fait ou qu’on ne fait pas, le moment où l’on choisit de la terminer est aléatoire. C’est une évolution. Il n’y a pas de fin à une évolution. Tout se transforme. Toute œuvre d’art, peu importe le médium, serait un ‘work in progress’. Le fait de figer ce processus dans un objet représentatif ne clôture pas forcément la création. La matière ne capture pas l'idée.

Il a été très inspirant pour chacun de traduire d’un médium à un autre son idée. Il est habituel de traduire une idée en mots. Ici les mots étaient « interdits », il fallait traduire ses idées en objets ou images. Peut-être est-ce le cas pour un architecte, un artiste plasticien, un peintre.….. de transposer son idée en objet ou image, mais pour une chorégraphe, c’est une tâche rare qui nécessite une traduction dans un langage étranger.

On a vécu cette « traduction » comme fort nourrissante et élargissante : transposer / appliquer le vocabulaire et la logique ou la grammaire d’un médium à un autre ouvrant d’autres dimensions de compréhensions, d’autres pistes de recherche, d’autres grilles de lectures, éclaire et rend évidents des coins qui étaient passés inaperçus avant. Certaines questions ne se posent que dans certains médiums.
1. A tribute to Karl L. Nessler: Static

At the end of the 19th century both Karl L. Nessler and Heinrich Hertz were experimenting with waves. Each in his domain was doing groundbreaking research. In 1888 Hertz demonstrated the existence of electromagnetic waves by building an apparatus for sending and receiving radio waves. Karl Nessler developed a successful technique for curling hair, wrapping it in spinal rods that where connected to an electrical heating device. These two seemingly unconnected events where the inspiration for an artistic research project called "A tribute to Karl L Nessler".

Both inventions where made in an era where much was still to be explored about electricity and the phenomenon that lies at the base of our electrical universe, electromagnetism. One century later we are barely aware of how a better understanding of this phenomenon changed our society. Electromagnetic waves are a natural phenomenon, they are everywhere. They enable us to communicate over long distance. It is the medium that carries our information. And in that sense it's also the medium for technological art. As stated by Armin Medosh*, both literally and conceptually.

If these electromagnetic waves are the thriving force for our information society, how can we use this phenomenon to physically shape the space we live in? This project explores the possibility of a responsive architecture that is shaped by the way we fill the aether with communication and information waves.

http://atkn.org

* Waves, Electromagnetic waves as material and medium for arts, 2006, rixc

Gert Aertsen

2. Referring to a silver plated presentation and celebrating a populist culture from a large section of the Schaarbeek neighbourhood, this thematic show arrangement visualizes both the mental context as well as the literary structure of a research design in an attempt to formulate an answer to 'research by design' in the field of expressions of form related to participatory-based architectures. This research is about a new way of arguing for relevance of architectures based on trust.

The broad PhD-concept wants to explore, through designerly thinking, the barely exploited area of aesthetics and acceptance of popular beauty in an architectural and urban world based on participatory processes. Moreover, this supposedly friendly area is filled with buzzwords and -concepts killed by overuse.

In an attempt to communicate on knowledge in this delicate and complex field, topics regularly pop out of and originate from the middle silver plate - ; they germinate, grow and bloom towards the upper and the lower layer. In this way cross-disciplinary fields and 'genres' such as storytelling (middle layer), contextualising (lower layer) and methodising translations (upper layer) are combined in a festive disposition. The 'reader' will be able to distil one or a couple of themes without grasping the whole book.

As such, the research project develops within three interacting layers always starting from the middle one: FORM, a form discussion through stories, METHODS FROM SKILLS, situational tools and TERMS & CONCEPTS, strategic notions.

Dag Boutsen

3. Ben Dierickx
4. ACTIVATING DESIGN

From rigid towards activating (by filtering, converting and storing) and architectural integrated (top-) surface area shapes to evolve the design-process towards comfortable and energy conscious (free-standing) dwellings.

1 RIGID/unbending/straight-backet/inflexible/petrified/fossilized/grown stiff/frozen/
2 ACTIVATING/revive/generate/awake/refresh/stimulate/encourage/support/
3 FILTERING/seep trough/percolate/sift/to select/daylight/shade/sun entry/venetian blind/orientation/
4 CONVERTING/transpose/change/alter/exchange/energy/heat/solar panel/
5 STORING/stock/lay/preserve/green roof/water/energy/
6 INTEGRATED/absorp/intercept/capture/take in/primary in the design-process and not second-class/
7 (TOP-)SURFACE AREA SHAPES/skin/the archetype roof may exceed when (new) (building) techniques are implemented/
8 EVOLVE/help/go ahead/push/advance/to have at haert/to advocate/to promote/

/tell me and I forget, teach me and I may remember, evolve me and I learn/

9 DESIGN PROCESS/cfr. Frankenberger 1997, Description of a design-process by sub-problems, variants and design-steps/
10 COMFORTable/convenience/individual/thermal comfort/visual comfort/indoor air quality/considered as data/
11 ENERGY-CONSCIOUS/durable/social/prospective/responsible/
12 FREE-STANDING/not joined together/open-space development as a basic case study/

Sandy De Bruyker

5. INTERNALIZING ‘UNCANNY’

[The Uncanny (Ger. Das Unheimliche -- literally, “un-homely”) is a Freudian concept of an instance where something can be familiar, yet foreign at the same time, resulting in a feeling of it being uncomfortably strange. [1]]

THEME

Revealing the concept of ‘uncanny’ as a creative design tool: the internalising and instrumentalising of elements of fear in an architectural discourse and design.

DEVELOPMENT OF ‘UNCANNY’

There are potentially 3 attitudes to be distinguished:
1 adaptive attitude towards “natural” elements: for instance rising sea levels can create opportunities with potentially new typologies regarding living, working, etc.
2 remedies and pathologies: world of phobic person offers a unique pattern of an unadapted being: this potentially offers insights in so called remedie design.
3 wonder and (sub)consciousness: art, philosophy, myths, storylines, tales generate wonder, an engine of architectural creation. It transforms us into subjective users of space – we are constantly ‘mental space’ makers!

REPRESENTATION

A research by design would ideally read, smell and be touched like a good book or comic, using flashback, plot holes, combining time and space, action and setting, (non) linear storylines.

[Comics (via Latin, from the Greek “Κωμικ-ός”, kōmikos, of or pertaining to “comedy”, from kōmos “revel”.[1]) is a graphic medium in which images are utilised in order to convey a sequential narrative.]

RELEVANCE OF THEME

“Uncanny” reveals the affective component of (interior) architecture. It and potentially displays therapeutic qualities.

Karel Deckers

Het project maakt gebruik van een intensieve samenwerking tussen een architect en vier kunstenaars als fundamenteel onderdeel van de onderzoeks-methode om beeldende mechanismen uit architectuur en beeldende kunst te exploreren. De eerste stap in deze samenwerking is een verkennende fase. Omdat het project net opstartte toont de opstelling enkele tussentijdse momenten uit deze eerste fase: een restant van reeds ondernomen stappen en een rekwisiet voor een volgende stap binnen de verkennende fase.

Arnaud Hendrickx

7. The core business of architects, considered as the invisible, conceptual, or immanent layer of world-making, is not intrinsically problematic, not necessary, it can’t be said to have failed, and it is not paradoxical in itself. Architecture is unavoidable but its concern is essentially superfluous.

Architects stand in a schizophrenic situation in which what they will do is necessarily unnecessary because it certainly has already “been done” in some way, and, if not, when done, it becomes equivalent to any other approach. Indeed, what makes a high-tech bling-bling approach more or less valuable than a socio-participationist one?

Is critical significance still possible beyond Brad Pitt’s analysis of OMA’s “image of europe” project, sounding: “This is fucking cool”?

Is architecture doomed to meaninglessness?

Still, this can not be accepted. Our capacity to perceive and produce sense is the condition of our humanity. Consciousness. Considering this, architecture can only exist through the confrontation with the mutism of reality, and through the refusal of unsignificance.

“Revolt is the only coherent philosophical position. It is the permanent confrontation of mankind with its own obscurity. It is the requirement of an impossible transparency.” (A. Camus)

“Anyway, failure is never absolute.” (F. Ponge)

Harold Fallon

8. Structure as a design tool
General outline

In the preliminary fase of the architectural design process it is important to take into account the criteria of structure of the building. Although having this structural input at the beginning of the design process seems to be a burden, it can also be an enrichment: this research is about defining this enrichment, it wants to promote this (structural) integrated design process by showing what it is and how it works.

This research will focus on those design processes that are exemplary for this integrated design process by examining my own collaboration as an engineer with architects and architect-students on the one hand, and by looking at collaborations between other architects and engineers on the other hand. The latter will be done on an international scale by studying literature describing design practice, and on a local scale by following up Belgian practices. These collaborations will be chosen with the purpose of being exemplary for the integrated design processes (i.e. a personal choice: this research doesn’t have the intention to cover all of the possible collaborations).

The research goal is not only to describe this integrated design process, but also to improve it. The evaluation of these ‘improvements’ will be done by the design process participants (i.e. architects and engineers).

Research objectives
- to improve the structural input at the beginning of the architectural design process
- to reform the structural knowledge within the architectural design paradigm
- to improve the communication between the architect-designer and the structural engineer
- to advocate structural input as an enrichment for the architectural design process

Overall research question
Can some main characteristics for integrating structural input in the architectural design process be formulated in order to describe and develop such an integrated design process?

Outcome
The result of the research is a booklet demonstrating this integrated design process through case-studies, accompanied by a more scientific representation of the accomplished research.

Laurens Luyten
9. **Itinéraire - Solo dansé**

Le monde est couvert d’un réseau d’itinéraires individuels. Dans tout ce fourmillement en suivre un en particulier. Incognito, mais probablement comme tous les autres, chaque être fait de son mieux pour poursuivre son chemin. On consacre une énergie invraisemblable pour atteindre ses buts et franchir ses obstacles. On ne s’y prend pas toujours avec la plus grande adresse, on n’est pas toujours maître de la situation. En fait, sans le vouloir ni le voir, on se crée souvent ses propres obstacles.

Une réflexion chorégraphique sur nos (ré)actions en face de nos obstacles.

**Court descriptif**

La danse de ce solo est l’action de se créer ses propres obstacles et d’essayer avec toutes ses ressources (motoriques, créatives et autres) de les franchir ou de les surmonter. Une réflexion chorégraphique sur les petits drames et victoires quotidiennes d’un individu, montrée avec humour et avec le sourire de l’autodérision.

**Distribution :**

- Concept, chorégraphie et interprétation : Melanie Munt
- Œil extérieur : Aleksandra Janeva
- Conseils dramaturgiques : Sylvie Huysman
- Création lumières : Laurence Halloy
- Création sonore : Antonin De Bemels
- Création décors : Marie-Bénédicte Baudin
- Structure de production : asbl Quoi d’autre
- Coproduction : eviDanse (CH) en collaboration avec le CCN de Belfort (Fr), le Cc Jacques Franck et asbl Quoi d’autre.

**Soutiens espérés :**
Le Ministère de la Communauté française Wallonie-Bruxelles – Service de la Danse, la commission de musiques non classiques, Les Brigittines, La Balsa - mine, Charleroi Danses, la SACD (150 heures pour danser), le CGRI, ...

Melanie Munt

10. **Itinéraire - Solo dansé**

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Une réflexion chorégraphique sur nos (ré)actions en face de nos obstacles.

**Doctoraatsonderzoek (IVOK): Between brief and building**

Between brief and building is een onderzoek naar architecturale ontwerpprocessen. De typologie van de rijwoning wordt hierbij als basis genomen. Het onderzoek kan opgesplitst worden in drie delen: in een eerste deel wordt ingegaan op de historiek van deze eenvoudige woontypologie in België, in het tweede deel worden ontwerpmatige onderzoeken van een aantal rijwoningprojecten uit de eigen praktijk (Tomas Nollet en Hilde Huyghe architecten) be- licht, in een derde deel wordt een nieuw ontwerp van rijwoningen opgestart waarbij een fenomenologische beschrijving wordt opgemaakt van de verschil- lende ontwerpbeslissingen.

De opstelling is een geometrisch onderzoek voor een aantal rijwoningen op een gewone Vlaamse site in de gemeente Bredene aan zee. Het getoonde proces is een manier om de werkelijkheid te abstraheren en zo ontwerp mogelijke af te tasten. Het is een methode om de eigen inspiratie te prikkelen.

Mario Mathys
Architecture needs CONTEXT and embodied KNOWLEDGE to reach MEANING as a medicine against the nonsensical on the slippery paths towards a deeper KNOWING of the way we see ourselves within the world.

The scale model is a REPRESENTATION, embodying the ‘metaphoric sum’ of the omnipresent acres of my own past as an architectural human being.

In literature and film multiple time frames can be mingled as an instrument to inform. Medieval painters collected appealing ‘views’ while ‘on the road’, to combine them by ‘free’ pictural association, creating wonderful enhanced worlds which inform us about deeper meanings to generate understanding.

This model is a comparable technique with distant geographic frames and far away time zones that inform about the the Polis in connection with a body of work of an architect.

At my age of nine, I created my ‘Invented Cities Zero’. I learned to be an architect. I understood the sense of mathematics and the utmost beauty of girls. But I kept resisting the prohibition of my dream, secretly hoping for the proliferation of it one day. I lied ‘no’, when somebody asked if I still was longing for it. These are my POETICS, my 39 years of ‘wait and see’. My invented Cities ‘Z’.

13. SUPERMODEL

Architecture needs CONTEXT and embodied KNOWLEDGE to reach MEANING as a medicine against the nonsensical on the slippery paths towards a deeper KNOWING of the way we see ourselves within the world.

The scale model is a REPRESENTATION, embodying the ‘metaphoric sum’ of the omnipresent acres of my own past as an architectural human being.
Sustainable evolving of the design-process towards activating and architectural integrated envelope shapes by making them from rigid
In this world there's two kinds of people, my friend. Those with loaded guns, and those who dig.

WAT IS EEN ONTWERP, ZORANIG VERWERKT DAT MET EEN WEEK OF ZICH WOROT

COINCIDENCE

COMMUNICATION ET PARTIR PEUT ÊTRE UNE MÉTHODE DE LA REFLEXION, CE N'EST PAS

COINCIDENCE

JE WONE OM MAAK IN HET WOORDENBEEK

HET TOON AAN EN MOET COMMUNICATIE EN EEN GESTAP VERDER ZIJN.

LA "PRÉSENTATION" DÉROU
L'ESPACE D'UN RÉALISME, DE CONFINER AVEC LE RECHERCHER: IDÉES, ELLE
ETHICS

Architectural concept

Design parameters

Metaphors

Question

Trust

Structural typologies

Answer

Structural concept

Non linear design process

Intuition

Structural translation

COMMUNICATION

Architectural translation

Structural Integrated Design

ARCHITECTURAL KNOWLEDGE

MORE FLYING

MORE TENSION

TRANSPOSITION

CREATIVE ENVIRONMENT
Designing terraced houses in Bredene, geometrical study, 5-09-2008
contributions
Participants of Research Training Sessions – ‘batch 06’

Karel Deckers - karel.deckers@architectuur.sintlucas.wenk.be
architect-journalist / atelierdocent departement architectuur Sint-Lucas, afdeling architectuur – interieurarchitectuur

Architectural uncanny: creative use of fear in architecture. The research focuses on revealing the concept of ‘uncanny’ as a creative design tool. It wants to explore how to internalize and instrumentalize elements of fear in an architectural discourse and design.

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KILLSPACE, architecture between say quantum physics and daily life. Doctoral Project By Design

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Questioning Research Requirements: a personal and subjective reflection on requirements for research within our department.

Participants of Research Training Sessions – ‘batch 07’

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Architect / atelierdocent en onderzoeker departement architectuur Sint-Lucas

An effort to re-situate the relationship between human needs, everydayness and populism, on the one hand, and participatory architectural design, on the other hand. The purpose of this effort is to develop a research framework using my own analytical ‘insights’.

Sandy de Bruyker - sandy.debruyker@architectuur.sintlucas.wenk.be
Architect, bureau Ae (Architectuur en energie) / docent bouwtechnieken, onderzoeker IVOTO departement architectuur Sint-Lucas

ACTIVATING design. Towards integral envelope shapes: sustainable evolving of the design process from rigid towards activating and architecturally integrated envelope shapes by making them filtering, converting and storing.

Laurens Luyten - laurens.luyten@architectuur.sintlucas.wenk.be
Ir. Bouwkunde, Architect, medeoprichter Babel ingenieurscollectief / docent bouwtechnieken, onderzoeker IVOTO, departement architectuur Sint-Lucas

Structure as a Design Tool: searching for a design language promoting the integration of structural and architectural design in a creative environment.
This article tries to explain what is at the basis with the start of a new design process. In a way we try to get a grip on the complexity of the reality and then try to work in it. It is not a paper in the real sense of the word but it is a part of a method I want to use to explain the different steps in the design process.

This article tells the story and the whereabouts of two imaginary cities - 'Supermodels of a Goddess' - which have been produced to contain three of the author's architectural designs, selected by himself out of the body of work he has realized up till now. This article, only barely scratching the surface of the research topics to be dealt with in the PhD project itself, is a reflection on the question: How can the making of scale models become a legitimate tool and part of a method in a PhD project in Architecture?

Participants of Research Training Sessions – ‘batch 08’

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ir Architect TUDelft, RIAS part I / atelierdocent en onderzoeker departement architectuur Sint-Lucas
Food Architecture & Urbanism: ‘We live the way we eat; we eat the way we want to live’ Can the understanding of FOOD help us to generate design tools in Architecture and Urbanism?

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ir. architect-ontwerper, docent mixed media en onderzoeker departement architectuur Sint-Lucas
Digital bricolage - architecture and new media
afbakenen van het onderzoeks domein, onderzoeksintenties
Onheimelijk, disquieting architecture of the inside – Creative uses of fear in architecture

The Chinese symbol for crisis is comprised of two characters: one indicating ‘danger’, the other ‘opportunity’. A design problem is not something to be overcome, but an opportunity to be embraced. The best design solutions do not make the problem go away, but accept the problem as a necessary state of the world. Frequently they are little more than an eloquent restatement of the problem.

Matthew Frederick, 101 Things I Learned in Architecture School, MIT Press, 2007, p. 98

0.1 Possibilities
The third-year design studio ‘Onheimelijk’, disquieting architecture of the inside’ is currently experimenting with the possibilities of using fear as a creative design component in interior architecture. ‘Onheimelijk’ (‘uncanny’) features are commonly found in many artistic expressions and even in science. Unfortunately, the concept of ‘uncanny’ does not easily lend itself to conventional descriptions or categories common to architecture. This design studio is consciously exploring the realms of the sublime, disquieting and ‘hidden’ aspects in architecture, discovering a stimulating yet slightly intimidating world: exploring the ‘uncanny’ resembles descending into an abyss while simultaneously fathoming its meaning and geometry.

0.2 Fields
Three essential fields for studying the unheimlijke or ‘uncanny’ deserve our attention as they bring about exciting new challenges for interior architecture. Firstly, the issue of climatic changes (like rising sea levels, desertification ...), result in a sense of disorientation and a high degree of long-term uncertainty. This does not disqualify these changes from being regarded as a design feature. What can we learn from the realm of phobias? Can a medical problem be a source of generating spaces, places and spatial qualities? Is it a coincidence that the object phobias are intimately related to issues of architectural significance (light, height, depth, symmetry, narrow spaces...)? Finally, we are also subconsciously influenced by the moral structures of fairy tales, mythical stories and artistic products: all of this information is passed on to us through a visual, oral or written tradition. It is the memory of these stories that makes us project fear, which creates the ‘uncanny’ atmosphere and the ‘onheimelijkh’ spaces.

1 Onheimelijk is the Dutch word for ‘uncanny’, heimelijk is the word for ‘secret’, ‘stealthy’
0.3 Children
By studying ‘the uncanny – onheimelijk’ components in architecture, one relates to the imagination of a child facing darkness in which space ceases to exist. It is reminiscent to walking in forests that embrace one like an interior does. It relates to child’s eyes transforming interior objects into giants as seen from the ground. ‘Onheimelijk’ is much about adopting an authentic attitude, accepting ever-changing realities. Even if they’re disturbing ones…

As seen from a child’s perspective, the world of material and forms seems to be ever-changing, magnified, stretched and magic. A child that is left in the dark quasi instantly designs a new and ever-changing universe out of the strange mixture of wonder and fear, regardless of any and all conventions. ‘Onheimelijk’ aims at understanding these primary forces as extremely creative design features.

1.4 Relevance
Arguably, traditional architectural discourses aim at ‘sensible’ aspects like visual clarity, positive spatial qualities and intellectual stimulation. By doing so, one possibly underestimates and excludes disturbing and ‘unorthodox’ aspects like improvisation, passing of time, deterioration, failed experiments, (home)sickness, phobias…

Assuming architecture essentially interacts with aspects related to light, perspective, rationality, intentionally achieving harmony and physical and mental equilibrium, … ‘onheimelijk’ adopts an ‘inclusive’ attitude incorporating all these aspects mixed with wonder, improvisation, joy, terror, incompleteness, darkness, dirtiness and willful confrontation with phobias, conflicts and paradoxes.

1.5 Roots of ‘onheimelijk’
The division between ‘sublime’ and ‘beautiful’ goes back to the writings of Edmund Burke’s A Philosophical Enquiry into the Origin of Our Ideas of the Sublime and the Beautiful, 1757. Objects of art or forces in nature (for instance the confrontation of man with the depth of an abyss, as in The Wanderer, painted by Casper Friedrich, 1818, the roaring sound of thunder, old isolated ruins and the endlessness of J.M.W. Turner’s misty landscapes) make us wonder about a deeper reality that transcends us. Through these sensations we reach out to the sublime and the beautiful. While the beautiful is principally linked to simple pleasures and joys, the sublime is connected to a strong sensation of pain and terror. The sublime thus becomes a source of fear and threat. But Burke tells us it is necessary to keep distance from these primordial fears. By detaching ourselves, we can experience something like ‘delight’. The sublime intelligently crossbreeds art, psychology, religion, politics and ethics.

1.6 Crossbreeding
It is remarkable to see that ‘onheimelijk’ is widely communicated and ‘designed’ through music (the long stretched vault-like musical experiments of Joy Division), comics (Schuiten en Peeters’ utopian evocations of 19th century dreams, Franquin’s ‘Gaston Lagaffe’ working and living in cave-like interiors, Tillieux’ peculiar sense of spatiality, Mitacq’s wonderful and mysterious medieval interiors, as in Jacques Le Gall’s films (David Lynch’s Eraserhead, Stanley Kubrick’s uncanny interiors in ‘The Shining’,…), literature (Kafka’s haunting novel ‘Das Schloss’, Lewis Carroll’s ‘Alice in Wonderland’,…), photography (Jeff Wall, Martin Parr), visual arts (Piranesi’s graphic experiments, Gordon Matta Clarke’s ‘Office Baroque’, Georg Schneider’s ‘Haus Uhr’,…), psychology (Bolnow’s ‘Mensch und Raum’, Freud’s ‘Unheimlichkeit’,…), philosophy (Anthony Vidler’s ‘The Architectural Uncanny’). But still it seems largely to be excluded from the discourse of ‘sensible’ architecture.

1.7 structure of design studio
Critical understanding of ‘onheimelijk’ is currently being discussed and pursued in the current third-year design studios of the St. Lucus Faculty of Interior Architecture under the project name ‘Onheimelijk – disquieting architecture of the inside’. The field of Interior Architecture potentially covers many aspects of ‘onheimelijk’: the current results and enthusiasm of the students in this respect is encouraging. The structure of the design studio program specifically addresses the complexity of the ‘uncanny’. It is made up of an individual and a collective trajectory.

1 individual trajectory (weeks 1-8)
In the individual trajectory, the student analyzes and departs from a chosen field (climatic changes, arts and world of phobias) and traces the origins of ‘onheimelijk’ by analyzing personal uncanny experiences.

2 collective trajectories (weeks 1-13)
Every two weeks (weeks 2-4-6-8-12-13) the students present in plenary session their individual and collective work. The collective model contains all individual student designs but is not just an aggregate: all individual designs are adapted in scale and materiality and then integrated into a large common model. This design aims at reintegrating all individual student designs into one common model to be presented at the end of week 13. Next to the collective model, there are also other group works:

- A group analysis in weeks 1-2 covering the four above-mentioned fields (phobias, artistic products, climatic changes)
- A weekly written report by one student, which serves as a sort of blog of the findings and progression of the design studio. (weeks 1-13)
- A filmed and photographed documentary of every design session and presentation (weeks 1-13)
- An excursion to Berlin: the students organize a compact tour of uncanny spaces (week 7)
- A book with a compilation of the productions of the 13 weeks (weeks 1-13)
- An intensive film afternoon in the ‘Paddenhoek’ cinema enjoying films such as ‘Psycho’, and Rear Window’ by Alfred Hitchcock, Great Expectations by David Lean, ‘The Shining’ by Stanley Kubrick (week 7)
- An exhibition project including all individual designs and the collective model: this involves the search for a site, the search for a design (+ construction of exhibition), the search for sponsors, etc. (weeks 1-13)
1.8 Findings
What students have found out concerning 'onheimelijke' spaces until this point are some essential ingredients that make up an uncanny design:

- **Natural elements**: narrow cave like passages, a forest in which one is 'trapped' but also feels free to move in an ever-changing variation of perspectives and views...
- **Topology**: topological contrasts in height and material, whether in landscape or cityscape context
- **Objects**: traumatic memory of a disaster or horrific event (holocaust, Berlin Wall, Cold War,...) creating a feeling of (in)security
- **Uncanny by nature**: amusement park attractions / bunkers...
- **Contrasting atmospheres**: contrasts of scale / height / materials...
- **Night time**: darkness in which the perception of depth evaporates with the consequent stimulation of hearing and sensing...
- **Climatologic circumstances**: snowy landscape in which depth disappears, mist that creates a feeling of loneliness, rising sea levels that create floating volatile interiors...
- **Human features**: claustrophobia, fear of the dark, neurotic interiors with books as a means of organizing space...

1.9 Communications by design
Assuming that communication means 'the act of transferring and imparting thoughts and information by speech, signs, writing,' or 'a means of passage between places,' … and that design is 'a sketch, a plan, an intention, an outline or the act of planning, intending, sketching,...', 'Onheimelijk' represents a strategy to incorporate affective components into the design process.

The strategy of 'Onheimelijk' enables us to design differently, exploring the enormous capacity of darkness, questioning certain conventions and looking beyond reductive preconceptions. It is about understanding an invisible and dark side of architecture that unveils a necessary counterweight to the unbearable lightness of being an architect. Above all, it is about discovering the existence of an affective side of architecture that is too easily forgotten.

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To make a space you have to kill a space. The space opposite of a spacekill, a kill of space. I use spacekill as that which is left over. No. Killspace is a space of pure always retreats. The space that is there before there is of action of its own, relevant [as a next personal step]
The space in which to kill a space I call a killspace. A consciously to refer to a tradition in architecture that consists of keeping possibilities. A killspace implies questioning. The killspace is something else. The space in which things disappear into my designing and teaching practice but relevant and
cess about a killspace means consciously weighing life-deepening on adding material to a place and where space is the space to question in. The killspace might be clear or appear but never are absent. Killspace is about space [also] as a next step for architecture, away from the tradit
and death of space opportunities. A killspace is the
ting something that is articulated by that adding – space
THE space. The space behind things. The space that
pace respect. It is held that a killspace defines a space
ition of spacekill. Marc GODTS, KILLSpace, architecture bet ween say quantum physics and daily life. Doctoraatsproject
Some time ago Adam Jakimovicz sent us, the Sint-Lucas research community, an email with an important question. Somehow I completely misinterpreted this question and formulated a kind of a reflection on the idea of research requirements within our department. The idea of writing a reflection seemed more appropriate since I have the impression that in order to create a creative and inspiring research environment we should think about what kind of identity Sint Lucas as a research institute really wants to express. In my opinion, it can be more than certain individuals working silently on a project. There are questions of involving the school as a community (teachers and students alike), there are questions concerning the motivations of the school in directing people to conduct research and, mutatis mutandis, the inner motivation of the researchers themselves; there are questions as to the identity we want to communicate and there are even more questions...

Our question concerning “requirements for research” considers research related requirements for architects, designers and artists of varied backgrounds: quite good at what they do, focussed and interesting folk, intent on conducting research within an architectural department. The mode of research referred to in the title and for which we are requested to state requirements for, represents an alternative research mode. It is not to be found within traditional, academically and scientifically sound research areas, but rather within artistic and/or designerly thinking. The definitions of this mode of research vary from research within the arts to research by design and variations within the concept of design-governed thinking, which all attempt to describe the practice of reflecting on (aspects of) what one does when being inspired or — designerly angles on certain themes and/or issues from an artist’s point of view. In order to limit discussions on defining research modes within design and to return to our main question, I propose we settle for the arbitrary term design research to coin our department’s research activities.

Our department’s active engagement within design-research is a reasonably recent (r-)revolution. Our department’s research activities within design lifted off some years ago with a first major conference “By Design”, which explored different themes within the idiom of design-research[1]. Through this conference and through the active force behind the whole design-research concept; our department started defining and organising a personal course within the cobweb of design-research possibilities while keeping an eye open for our specific identity within this stream of thoughts and as an architectural department.
Novice researchers are offered a series of “training sessions” led by visiting tutors and potential promoters for projects. The modes of the session’s proceedings differ from active workshops, inside information, critical notes, lectures, advice on content and other valuable insights. The sessions consider research by design, doctoral qualifications, research philosophy, concepts of in-on-through-within-without-design and other excursions within the flow of academically organised design-research areas. There is a floor designated to working on research projects and cooperative alliances with several (international) institutions which have acquired know-how within the subject in some way or another. Within this system of possibilities and opportunities, one has to find a way to define and start up a personal research project. The proceedings are shared with colleges from within and without one’s field of practice who (can) inspire through the mutual confrontation of their practices and through discussing possible research areas. A variety of invited tutors with different backgrounds tailor and/or review these sessions in order to shape the participants’ thinking on research. After a cyclus of two years of “training sessions”, one can continue to make use of the system through attending workshops, by working on research-related assignments and by attending personal consultations with some of the various visiting professors. The interaction and reflections potentially help to develop a more solid theme, or not for that matter.

Now that we have roughly sketched “what’s on offer”, let us return to the question at hand. Our question does not call research as such into question, but rather, it questions us as researchers within our department regarding the requirements for comfortably conducting research. Seen from the privileged vantage point of being part of that community, the requirements call into question two what I would like to call distinct and ultimately opposed research polarities. First of all, there are institutionalised academic requirements concerning the hows and whats of engaging oneself in organised design-research and, secondly, there is a specific designerly approach to the things we ought to require. As we all know, it’s quite common that we do research in order to design, to design researched objects or to implement nothings within their practice. Research is an undeniable part of any creative practice. Be it an instrumentalist practising extended techniques or a bricoleur savant trying out things in order to create an image of whatever reality. That being said, there are only few of us who actually know how to fit our practice-based research into academic models. To the creative mind – really – the models mean bollocks. Creative minds do what they do and they can’t be bothered with doctoral degrees of any kind because there is no use for such things within their practice. These people create output through the several activities within their practice as such. For one reason or another (the specifics on the whys of conducting research is yet another matter), we, the research community in our department, have somehow engaged ourselves within this design-research process and are trying to define what it exactly constitutes and how to fit the idea into our practices.

For most of us, it is quite unclear what this design research consists of. There are several people working on inquiries; researching aspects of their practice; inquiring into hunches, writing, editing, (re-)collecting writings and so on. Some of the stuff gets reviewed but the status and content of these things remains, for the most part, unclear to the outside world. In addition, some of us seem to struggle with questions of academic support, the value of a PhD degree departmental research facilities, funding, how to maintain one’s practice while researching, PhD formats, modes of (re-)presentation, mandatory issues governing the actualisation of a PhD degree and other issues governing the modus operandi of institutionalised research. These questions, to a certain extent, all stem from traditional values within research degrees, from age-old accepted rules within doctoral communities and how to comply with them. These questions constitute things we have to conform to but which are in a sense secondary to the very idea of design-research. As already stated, research is a part of our professional practice, but for most of us the academic issues surround the process of getting a (legal) doctoral degree are shady academic mumbo-jumbo.

The first polarity within the above considers research requirements from the official point of view, from the angle of active (design-) researchers concerned with degree-based aspects of research. The pun is: we are designers, we think differently, use a combination of rational and (according to some) irrational thinking in order to attack cases in a creative way. Considering the question from a designer’s point of view changes our take on requirements drastically. Looking at our question through designerly lenses reveals considerations of space and environment, reveals questions of qualitative atmospheres and opportunities of interaction to inspire creative research projects, and opens up questions of possibilities instead of actual solutions.
According to the dictionary in my laptop (Oxford American Dictionaries), the word “campus” stems from the same word in Latin: “campus”, meaning field or open space. When we think of fields, we tend to see trees, grass, a stream of water, animals and/or crop; thinking of open space we see market squares, open spaces within forests and undefined areas within space and thought. Thus “open space”, conceptually, equals a non-defined space, hence open for interpretation for it’s users. From there on it’s easy to see that our department boasts a research campus which seems to be abstracted from references to it’s original meaning, both literally and conceptually.

Our Brussel’s “research campus” is situated in a grey and bustling neighbourhood within Europe’s Capital. Indeed, the area is quite inspiring: more than multicultural, libraries at our disposal dedicated to art and architecture, an architectural archive devoted to (the history of) Belgian architecture, several places to meet and eat, coffee and sometimes even cookies (necessary research items, according to Gerard De Zeeuw). There’s a reasonably quiet area where one can settle down and work on inquiries, and when fed up with that, one can relax on a large introverted terrace or in the cafeteria. And if that’s not enough, you can also throw yourself into the Brussel’s pool of temptations in order to find one’s inspiration. But is that enough?

If we consider the opportunities above and our question at hand, and if we envision our target audience – designers, architects and artists –, then we have to ask ourselves the question: What does our specific subculture within the research community need in order to do design research? In other words, what are the environmental differences between our designers and, let’s say, a microbiologist? A quick review would teach us that our target audience is quite outspoken when asked about their working areas. Designers, architects and artists, like inspiring neighbourhoods, like to surround themselves with things of beauty in order to feed creativity, like the sheer romanticism of sitting under a tree to dwell on something (remember Isaac Newton’s inspirational apple). We like to eat our favourite sandwiches while having a discussion with a peer or acquaintance. We like the comings and goings of students and their fresh ideas, (though not all the time). We like going for a walk in the city in search of input, and so on. If we were to review our microbiologist on these spatial and social issues, we would conclude that the same items apply to him (or her). The difference is that our scientist researches microbiology within a lab or areal, and our researchers design the prerequisites within these environmental items. Our researchers invent some of the things scientists, for the most part, take for granted.

Since most of our researchers are looking for “things” within their own practice, our questions of space and environment change considerably. Most of us already work in a furnished research environment within our own studios, at home, in the office and so on. These spaces are our working areas and, as research is a part of our practice, they are research areas. This changes the idea of a research environment within our department drastically, since the environment within the department should offer something different than a mere variation on our personal working area. It should offer a place to step out of the arena of everyday obligations and offer an pleasing alternative atmosphere to counter our very own environment. In order to get a glimpse of what such an “exterior” research environment can consist of, I propose that we look around to see what our research areas are made off. As I can’t look into yours, I would like to share some aspects of my very own surroundings to see what could be added as requirements for research. Obviously there is the desk and the chair, with a nice (personal) lamp on top of it, only to define a place to sit down and work. Now that we are seated, let’s see which items of personal interest could be added to the list. We could, for instance, consider my record collection as a necessary item, as I like to surround myself with music of my own choice to suit some state of mind. Soothing as that may sound, I have to oblige myself to rule that one out. What if everybody were to play their favourite tunes at higher volumes? Let’s stick to the headphones, the laptop and an I-pod: various solutions within two little boxes: music, video, storage, the lot! The stove? Could I really ask for a stove? I’ll install it! Speaking of a stove, what about a lounge, a place to relax and read a book or magazine, a comfortable place to discuss stuff privately, preferably in front of that stove and some nice couches surrounded with various attributes to enliven such a space (ambient lighting, television, hi-fi, books, drinks, works of art). The library? Get outta here!. Personal libraries stay at home. We obviously can’t have everyone moving their libraries within the school’s premises, or else the place would be bulging with books, (which I wouldn’t mind). But maybe, instead of everybody moving libraries to Sint-Lucas’ 5th floor, we can think of a possibility to store and display key personal publications and some collective shelves to carry publications within the general areas of research.
activities of our department. We have to be honest about that one, too: no-one is really interested in those books, apart from our growing research fellowship within the department, so why don't we designate a research corner for such works? The books will feel more at home there, and we will get easier access to them. What about the dictaphone, camera, phone, laptop, hard drive and some of the other stuff one could need to record and organise research? Discutable... Maybe some kind of a portable “research media pack” to carry research from campus to campus to the homebase and within the field?

Certain things mentioned could be considered as basics, objects one can carry along and define a stance upon concerning who's providing what. Other things mentioned fall into categories of perception, the comfort zone. It's a question of feeling at home. A question of defining the exact requirements which make up inspiring research environments. Personally, I like to conduct research activities within a place where I can remain focussed and with a fairly easy access to inspiring distractions, even if this constitutes playing a set of table-tennis or practising drum rolls, for that matter. Mentioning comfort is mentioning physical requirements which deal with ergonomics, lighting and shading, room temperature and an ability to heat or cool the place, considerations of air quality and an ability to ventilate, to step outside, to go inside... Working areas where one can remain for several hours and which are preferably organised to look tidied up (a question of storage), but offer a certain possibility to turn the place into a big mess because the research phase requires it. One tends to think that our designers, architects and artists require clean, let’s say, white areas filled with the right design attributes to suit their egos. I assure you that this is based on a biased misconception, the very same misconception which states that all architects wear black suits and rimmed fancy glasses, that they like to attend contemporary dance performances, drive Saabs or any other suitable designer's vehicle, and like picture books more than long exposés on the meaning of those pictures. As already mentioned, our researchers travel within distinct fields of art and design and have personal views on design and environment, which doesn't mean that they all conform to the archetypical designer's stereotype. A space to conduct research should offer open-ness, open-ness of use, interpretation and an ability to turn the place into one's own without bothering neighbouring researchers. There should be collective spaces where researchers can reside and contemplate research, where things can be discussed, where distraction is to be found and so on. The place should offer a kind of cosiness, a place where one likes to come back to to work on that project. Maybe my designer's brain is running wild here, but the question set it off and I couldn't help starting off...

To conclude this question on requests for research, I can only say that certain basics have definitively been fulfilled. As stated in the above, our department offers spaces, places and certain facilities for research, and it has organised opportunities for research. But our research undertaking lacks identity (what really constitutes Sint-Lucas' design-research?), it lacks a certain feeling of being a part of a larger community within the department and association, it lacks a critical mass, and it lacks a link with our students in order to convince them of the necessity of research within the department's activities[2]. Contemplating any further on the spatial research requirements would run the risk of becoming too specific and too personal regarding some of the proposed requirements. To summarize the above, one has to think along the lines of our two distinct components: the academic and the designerly. The academic is not very clear to novices and struggling researchers, and the environmental spatial facilities are equally chaotic. One step could consist of designing the research requirements spatially and clearly defining/designing some of the institutional requirements for our department's research. Ultimately our above stated question concerning “requirements for research” creates a kind of a contradiction because in order to do research one has to fulfill certain requirements which are not clear to most of us, and in order to do research one is suddenly asked to require certain things. My question is then: which kind of requirement comes first and who's responsible to define them?

[1] I have to excuse myself for not remembering the exact title of the conference. The proceedings of the conference are in another bookshelf than the one close to me at this moment.
[2] “I've been to the 5th floor a few times: it's a complete mess and there seems to be nobody present".
[3] [master student on doing research in our department]
This paper is an effort to re-situate the relationship between human needs, everydayness and populism, on the one hand, and participatory architectural design, on the other hand. The purpose of this effort is to develop a research framework using my own analytical ‘insights’.

Architect and Professor Peter Ullmark of the Royal Institute of Technology in Stockholm describes his own research approach as a way of addressing design as something that “is not about that which is or has been, but about how it should be, based on certain conditions”. He writes:

“If one wishes to capture the potential of design research, one must accept that it differs from other research practices and that it has to discover its own path. Design research must capture the human need to grasp and change complex issues by testing a variety of solutions based on an intuitive understanding.”

‘What might be ‘possible’ in a societal and cultural perspective’, is what makes research worthwhile.

Christopher Frayling’s definition is even stronger, dividing design research into three distinct fields: theoretical-conceptual research into (or about) design, methodological-instrumental research for design and experimental-hypothetical research through design.

The different components of my own research could easily be placed into a context overarching Frayling’s three types.

Being hypothetical, research through design has, according to Daniel Fällman, the capacity to move between three areas in a controlled and deliberate manner: design practice dealing with the ‘real’ dimension of design and relating to design practice in companies; explorative design, which is about considering what might be ‘possible’ in a societal and cultural perspective; and design studies, which have to do with reflectively understanding what is ‘true’ in the design process one has been involved in.

In his ‘Interaction Design Research Triangle’, Daniel Fällman deduces ‘aesthetics’ as a main characteristic related to design exploration. He means aesthetics as opposed to - or actually as combined with - ethics and logic.

Exactly 50 years ago, Douglas Haskell criticised the International CIAM thinking on the gaps between the young futurist architecture and the aesthetics of the new mass culture. Now, 50 years later, there is a growing and renewed focus on developing research in the field of social aesthetics and value factors. An increasing number of researchers, artists and even architects are therefore looking into the aesthetics of the ‘Everyday’. These include, for example: Joanne Lee, an artist, writer and lecturer, who
investigated the aesthetics of everyday life in a PhD thesis at the University of Sussex entitled ‘Scattered with Marvels’; Thomas Wiesner, (aka Sam Rensiew), architect and associate professor at the Royal Danish Academy of Fine Arts, who has made a study of the fine art of ‘pataphysics in daily life’; Leo Van Broeck, engineer-architect, who featured photographs of contemporary urban fragments in ‘Urban Sidewalks – Les trottoirs de la ville’; and many others.

There is a need to move beyond the narrow focus upon works of art and the repetitive attention to issues of the sublime or the beautiful. More ‘everyday’ material is increasingly becoming the object of study and there is now a broader concern with the full range of ‘sense perception’.

Most of these investigations are dealing with an analysis of objects and their aesthetic effect. From a practical design perspective however, one may also attempt to turn the process upside down. Instead of analysing objects and their aesthetic effect, one may attempt to activate one’s analytical insights. According to Morten Kyndrup, one may make a deliberate attempt to design objects with a high degree of ‘implicit aestheticity’ that invite the formation of aesthetic relations. Here lies a great potential for further studies.

Turning the process upside down, the aim of my research is to explore formal expressions in architectures based on trust.

I will start with an introduction of architects and architecture ‘belonging’ to my research field and then I will elaborate upon it with an attempt to situate characteristics in an appropriate field.

Multilingual architectures

The amount of architectural variations in the total oeuvre of Ralph Erskine is intriguing.

In his book ‘Ralph Erskine, architect’, Mats Egelius states: “He has always found it easy to get on with people of all sorts and to gain the trust of clients. His possession of this seemingly essential quality needs to be mentioned, for some of the great in-

fluential modern architects, especially Le Corbusier, have been described as dogmatic and fearsomely uncompromising. Erskine is quite different: patient and one who avoids disputes if he can, he habitually begins projects by emphasizing what everyone is agreed on.”

Sjoerd Soeters, a ‘contemporary’ architect, continuously emphasises on the ongoing actuality of (retro) authenticity. The philosophy of the Soeters Van Eldonk architectural firm diminishes the architect’s role, on the one hand, and enlarges it on the other.

Their ‘process philosophy’ is described as follows:

“From sketch to working drawing from design consultation to supervising construction: ‘We are just your humble architect. We search for the surprising, suitable answer for any question and for any situation. For this reason we find it absolutely impossible to build in a single style. As a result, the architecture of Soeters Van Eldonk Architecten is multilingual by definition: sometimes historical, sometimes symbolic, and sometimes quasi-modern. The relations between buildings and their environment are essential. There is an enormous gap between urbanism and architecture today. … It is not only that the design has to be developed, but the question also needs a lot of sharpening…”.”

Ralph Erskine, Lucien - my friend - Kroll, Sjoerd Soeters, Peter Hübner and other similar architects are proponents of a certain ‘nonchalance’ towards architectural forms. They were or are in a state of ongoing search, inspired by various external influences. They share a certain restlessness in their mind. And they all have an extremely flexible drawing hand.

All of these architects are (were) involved in participatory design processes.
What exactly is this link between the flexible ability to incorporate participation into the designs and having an open mind towards architectural languages?

How is this ‘nonchalance’ towards architectural forms usable in participatory processes?

What is it – what happens – when non-architects appreciate the strangeness in their kind of buildings?

Why are these people familiarizing these architectures into their lives, websites, blogs, vlogs and chat rooms?

Is there something particular in the everyday aesthetics, and is there subsequently something obvious about feelings of comfort?

Can one speak of a boundary problem in most of the contemporary mainstream architectures?

All these questions explain the title of this document.

The specific design-characteristics required for ‘effective participation in the shaping’ and the direct involvement of people in the co-design of things they use, need to be defined.

Because ‘true’ participation concerns real engagement rather than a grazing of the image, it can also provide a counterpoint to the image-fuelled world of the media.

**Situating characteristics …**

One of the schemes I instinctively made in the very first research period involved looking for an appropriate field range where designing objects with a high degree of ‘implicit aestheticity’, as stated by Morten Kyndrup above, can or should be situated.

This figure represents a field range based on terms. The architectures I want to investigate and talk about are placed in an extended middle field.

The three fields refer to a classification model created by Douglas Kelbaugh. In making a distinction between Post Urbanism, New Urbanism and Everyday Urbanism, Kelbaugh attempts (though in an American way) to catalogue design models, taking into account that these three models are all necessary.

New Urbanism is the most civic and idealistic; it can be utopian in its aspirations and claims, maintaining there is a structural relationship between physical form and social behaviour.

Post Urbanism is the most heterotopian and least idealistic of the three paradigms. Form is predictably unpredictable. Zaha Hadid’s proposal for Hong Kong or Rem Koolhaas’ Euralille are early, well-known examples.

A lot of similarities can be found between my (our) vision of participatory designs and the atmospheres of everydayness. Since Everyday Urbanism delights in the spontaneous and indigenous, multiplicity and heterogeneity are specific characteristics.

In the first horizontal layer, terms related to classic architectural values or non-values step on purpose over the limits of the vertical columns, thus indicating the need for some civic conventionalism on the right side and some sensational influences on the left. Left and right can of course also be seen in the political way.

In the second layer I want to stress the necessity of bottom to top (left) then top to bottom (right) and so on.

This way of working, certainly in Dutch circumstances, has proved perfect, and when it comes to participatory designs, it probably is the only way.

On the bottom layer, socio-cultural terms are again trespassing Kelbaugh’s division lines.

There are, however, some serious shortcomings in Everyday Urbanism as a designation:

Douglas S. Kelbaugh and Margaret Crawford of the University of Michigan present the case for everyday Urbanism as an informal, bottom-up urbanism that celebrates and builds on everyday, ordinary life and reality, with little pretence about the possibility of a tidy or ideal built environment. Everyday Urbanism is not interested in transforming urban contexts into something new, but instead typically retrofits already existing situations to better accommodate everyday life.
Refamiliarization of urban environments, is maybe the nicest way, as Crawford puts it, and it links up with architectures based on trust, the main topic in my research.

In criticizing Margaret Crawford, Michael Speaks states that Everyday Urbanism has never aspired to or addressed the problem of bottom to top then top to bottom, which is how you create a planning model that is somewhere in the middle.

Michael Speaks rather introduces three terms borrowed from Crimson: software, orgware and hardware.

Software deals with ideas, ideologies, policy or even meaning. Hardware is the actual physical stuff that is designed, the buildings, infrastructure, etc. And orgware is the middleware that negotiates between the software and the hardware, and that actually makes and remakes the city. Orgware gets things done. Everyday Urbanism deals only with software – with meanings and interpretations.

Although Douglas Kelbaugh recently added ReUrbanism to his catalogue referring to the best examples of Everyday Urbanism, Patrice Goulet’s definition sounds better. He opposes his definition of architecture of the ‘quotidian’ to symbolic architecture.¹⁵ Both are necessary, he says, but ‘the quotidian’ is a disaster nowadays.

Everyday Urbanism is a commentator on the city, an interpreter rather than a force of transformation. Glamour and the act of glamorization are missing, as well as surprising elements, as Soeters mentions – the unexpected, as I’ll call it.

As I progress with my research, I will try to find a more suitable definition and name for Everyday Urbanism one day.

Morten Kyndrup’s invitation to activate one’s analytical insights and Michael Speak’s plea for a new kind of orgware are very much related.

This is why I continue working on comprehendible and methodical term clusters woven above a ‘3 genres’-layered scheme in an attempt to invite the formation of aesthetic relations. A story layer made of specific empirical situations will be accompanied by a more technological layer on participatory methods and a more philosophical layer on appropriate terminologies.

(Dag Boutsen)

(Endnotes)
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Dag Boutsen

Exactly ‘up my street’ (as they say in the UK)
SUSTAINABLE ARCHITECTURE / TRIAS ENERGETICA

1. minimizing the net energy demand
2. integrating sustainable energy sources in an economical way
3. optimizing HVAC installations to cover the remaining energy demand

Energy efficiency over the entire life cycle of a building is the most important single goal of sustainable architecture. Architects use many different techniques to reduce the energy needs of buildings and increase their ability to capture or generate their own energy.

Alternative energy production. Active solar devices (photovoltaic solar panels) help to provide sustainable electricity for any use. Roofs are often angled toward the sun to allow photovoltaic panels to collect at maximum efficiency, and some buildings even move throughout the day to follow the sun. Active solar water heating systems have long provided heating energy in a sustainable manner. Occasionally, buildings that use a combination of these methods are awarded the ‘zero energy’ label and can even begin generating excess energy for other use.
A great building must begin with the unmeasurable, must go through measurable means when it is being designed, and in the end must be unmeasurable.

Louis Kahn, 1901-1974

A design exercise interpreted by means of dialogue between the student and the teacher demonstrates the evolution in the design process, in which the (new) technology that is needed for energy conscious comfort becomes architecture and is designed by the designer, and not by an expert in the secondary phase. The exercise is intended to stimulate a (new) design attitude in which technology participates in the design process, not as a problem solving tool, but rather as a tool for creating an energy conscious architectural shelter.

2/EVOLVE/help/go ahead/advance/to have at heart/to advocate/to promote/to CHANGE

tell me and I forget, teach me and I may remember, evolve me and I learn/

adaptation of a quote of Benjamin Franklin (politician, scientist 1706-1790):
Tell me and I forget, teach me and I may remember, involve me and I learn.

Evolving by involving:

The Ecology of change. The condition for change is to start from the very beginning situation: to accept the actual state which leads to the next move.

AUDIENCE?

Policy makers and building decision makers, because this research exemplifies the potential for sustainable development of the design of our buildings;

technicians and contractors, because this research represents an economical alternative to conventional building techniques, in an innovative environment;

architects and engineers, because this research shows a concept of innovative architecture;

for potential future dwellers.

WHY RESEARCH?

Imagine

Ask

Plan

Improve

Create

A design exercise interpreted by means of dialogue between the student and the teacher demonstrates the evolution in the design process, in which the (new) technology that is needed for energy conscious comfort becomes architecture and is designed by the designer, and not by an expert in the secondary phase. The exercise is intended to stimulate a (new) design attitude in which technology participates in the design process, not as a problem solving tool, but rather as a tool for creating an energy conscious architectural shelter.
4/RIGID/unbending/straight-backet/inflexible/petrified/fossilized/fixed/grown stiff/frozen/

The Ecology of change. The condition for change is to start from the very beginning situation: to accept the actual state, which leads to the next move.

/BELIEF/that architecture is a mindful practice of an art whose imagination is built upon ethical foundations. /ETHIC/Architectural practice today must address environmental impact to restore environmental sustainability. /PRINCIPLE/through bioclimatic spatial design and selective & innovative use of technologies/

Activating design can result in envelope shapes which exceed rigid shapes when these are used to derive models from an original model or concept, the archetype. This research will bring up the uniform design approach of the envelope shape while introducing:

- climate related conditions,
- programme related conditions
- and comfort related conditions.

/ACTIVATING DESIGN / Sustainable evolving of the design process towards activating and architecturally integrated envelope shapes by making them filtering, converting and storing.

5/ACTIVATING/revive/generate/awake/refresh/stimulate/encourage/support/

‘One month of sunshine on earth delivers more energy than the total stock fossil fuel. The sun has the probability of continuing to exist for more than a billion years... Long before that time has expired the available reserves of oil, gas and coal will be exhausted.’

Lucas Reijnders (‘Energie, van brandhout tot zonnecel’)

ATIKA exposes its roof area to catch the energy of the sun and the ventilation of fresh air. The choice of the materials, the strategically placed windows facing all directions according to room function and the solar panels facing the sun at different angles allow for high energy efficiency and a ‘pleasant’ indoor climate all year.

ATIKA solar thermal energy: an innovative system, with the solar collectors supplying energy not only for heating but also for cooling purposes. They can accumulate about 70% of the hot water supply and up to 30% of the energy for heating spaces.

Design of greenhouses, the ‘Wageningen UR Glastuinbouw’ case. The designers used an NIR-reflecting foil applied in a parabola shape, which results in a bundling of NIR reflections, which in turn leads to less surface area of photovoltaic panels. The high heat load of the bundled radiation can be stored in an aquifer or heat buffer.

Using curved hardened glass (parabola shape) and a sun conduction system resulting in:
- minimizing photovoltaic cells
- maximizing daylight
Architectural integration refers to the design process, and more specifically to the implementation of certain (design) actions as illustrated here below (draft version). This research could result in a number of diagrams accompanied with physical principles, in case studies and in techniques in which the design moment is ‘discovered’. Using these diagrams can promote the design process and stimulate the integration of certain techniques according to the Trias Energetica.

WHY RESEARCH?

6/INTEGRATED/absorb/intercept/capture/take in/primary in the design process/

‘Solar architecture is not about fashion, it is about survival.’

Sir Norman Foster

comfort-zones and interaction
dermal comfort
indoor air quality
visual comfort
(acoustic comfort)

surface area efficiency
usefull surface / circulation surface

compactness
volume / exterior envelope

[activating design]

envelope development

orientation / implantation / expression / context

filtering

sun

active / passive / hybrid

daylight

heat

indoor

outdoor

high capacity
(insulation)

low capacity

(heat-control)

converting

solar energy

heat

electricity

thermal resistance

(heat insulation)

storing

heat

refrigerating

water

vegetation

programme

model

Figure 14 IVOTO_SDB

Electrowinds Biosteam Power Plant, Ostende, Belgium

Figure 15 IVOTO_SDB
According to a roof slope study, each space of the house was considered independently in terms of its orientation and the incidence of sunlight relative to the roof slope and the window openings. The roof angle depends on the need either to absorb or to protect from the sunlight:

- In winter, it is most necessary to absorb the heat of the low sun.
- In summer, the sun is high and the building needs to protect itself much more from excessive radiation.
- In spring and autumn, the roof will absorb or protect, depending on its angle to the sun.

In Atika, the windows are placed high and low.

- The high-placed windows, air outlets, are placed on the sloping roof, oriented north and south.
- The low-placed windows are installed on all four facades. In the summer time, the inlet air is taken from the cool north side of the building. This facilitates the flow of air through the stack effect and cross ventilation, following a strategy of selective shading and ventilating, helping to reduce substantially the indoor air temperature.

This seasonal behaviour gives the volume of the house its characteristic form. An important aspect of daylighting, is the controlling and shading of sunlight to ensure the use of daylight during the winter season and to protect against the sun during the summer.

Fifteen generations ago, most human beings spent the majority of their waking hours outdoors, and buildings functioned primarily to provide shelter and security during the hours of darkness.

DAYLIGHT AND HEALTH versus Sick Building Syndrome: the dynamic quality of daylight seems to be related to health.

1. Bring more nature into the built environment.
2. Design using characteristics such as variety (in space) and variability (in time) and making adaptive responses.
   - Do we provide this in the buildings by coupling the interior with the exterior?
   - Is it possible for the built environment to provide an equivalent richness?

These are questions which are going to become increasingly relevant as building (urbanisation) continues and the pressure to build bigger and deeper buildings grows. Not only does it refer to a creative and architectural response, but it is far more compatible with low energy passive design than the highly engineered artificial environment buildings. The issue of responding to natural stimuli should be treated as seriously as any cultural evolution.

Software supporting the design process from the very beginning. A building design and environmental analysis tool that covers the simulation required to understand how a building design will perform. It allows designers to work in 3D and apply the tools necessary for an energy efficient and sustainable future.

In almost all projects, decisions made in the first few weeks have the greatest overall impact on building performance.
Building Integrated Photovoltaics (BIPV) are photovoltaic materials that are used to replace conventional building materials in parts of the building envelope such as the roof, skylights or facades. They are increasingly being incorporated into the construction of new buildings. The advantage of integrated photovoltaics over more common non-integrated systems is that the initial cost can be offset by reducing the amount spent on building materials and labor that would normally be used to construct the part of the building that the BIPV modules replace. In addition, since BIPV are an integral part of the design, they generally blend in better and are more aesthetically appealing than other solar options. These advantages make BIPV one of the fastest growing segments of the photovoltaic industry.

Solar thermal energy is a technology for harnessing solar energy for thermal energy (heat).

- Low temperature collectors are flat plates generally used to heat swimming pools.
- Medium temperature collectors are usually flat plates as well, but are used for generating hot water for residential and commercial use.
- High temperature collectors concentrate sunlight using mirrors or lenses and are generally used for electric power production.

The Solar Kitchen in Auroville (India) uses a concentrating technology known as the solar bowl. Contrary to conventional tracking reflector/fixed receiver systems, the solar bowl uses a fixed spherical reflector with a receiver which tracks the focus of the Sun as it moves across the sky. The solar bowl's receiver (15 meter diameter) reaches temperatures of 150 °C to produce steam sufficient to cook 2,000 daily meals.
Structure as a Design Tool

Abstract

This article describes Structural Integrated Design as a design method according to which the structural criterion is taken into account during the process of designing and evaluating the architectural shape, and the structural logic guides and enriches the design process. Therefore the knowledge of structure needs to be translated into a design language describing the world of structure and architecture. By looking at the structural input of a Structural Integrated Design process when architect and structural engineer are working together, I plan to determine the characteristics of such a design process in order to develop this design language.

Structural Integrated Design (SID)

When making an architectural design, many criteria (e.g. budget, function, expression, environment, space quality) have to be taken into account. Structural stability is one of these criteria. Since the shape of the building is directly related to the structure which holds it together, the structural concept of the building is basically designed when the shape is designed. So if we want to control the design of the structural concept, we have to be conscious of the structural implications when designing the shape of the building. The search space of the overall architectural shape – and, as a consequence, of the overall structure – is still large at the beginning of the design process. Therefore it is important to take into account the structural criterion at the beginning of the design process if we want to be able to steer the design of the structure.

At this stage of my work, I call this design process where the structural criterion is taken into account early on, Structural Integrated Design (SID). SID makes the consequence of an architectural decision apparent on the level of the structure of the design and infiltrates the architectural design process with structural logic. The objective of SID is not to design an optimized structure as such, nor to make a design with a strong structural expression. SID is not intended to impose the structural criterion as a conditio sine qua non. Structural stability is only one of the many different design criteria between which the architect needs to find a balance. The main goal of SID is to understand and evaluate the structural criterion while shaping the design. (The opposite is to design a shape without any kind of structural knowledge involved.)

1 This is the range of possible solutions to a given problem.
The second goal of SID is to guide the design process. Structural logic can be a very powerful tool in structuring both the design itself and the design process. As mentioned above, the search space of the design is still large in the early phase. Structural input can guide this search space towards a consistent and manageable design level, and at the same time inspire the design process. To be able to accomplish this, the structural knowledge needs to be translated into a design language for describing the world of architectural shapes and structural concepts (as opposed to a language for calculating structures).

Although SID is a design method that in principle does not impose a structural criterion on the end result of the design, it is likely that in the final design the structural concept will be an expression of the architectural concept.

When and how does SID happen?

Every building that is built – and still standing – meets the criterion of structural stability. The design of the structure can be divided into two major activities: designing the structural concept and calculating the structural dimensions. The structural concept consists of all the structural elements (e.g. beams, columns, slabs, cables, shells) and their interconnections that determine the whole structure. It is the translation of the physical shape of the building into the structural model. This model and the imposed loads are used to calculate the dimensions of the structural elements. This division of 'concept designing' and 'calculating dimensions' can be applied on all scales of the building: from the overall structure of the building to the smallest detail that needs to be dimensioned.

Designing a structure involves these two activities in a cyclic process where the structural concept is evaluated by the calculated dimensions. This evaluation leads either to accepting the structure, or to refining it, or even to redesigning the basic structural concept.

Calculating the dimensions of the structural concept is basically a procedural activity that can be written in a computer program: input and output have a one-to-one-relationship. Designing a structural concept, however, is a design activity in every sense of the word. There is no predefined translation from the architectural shape into the structural model. Architectural objects can be translated into different structural objects (and vice versa). For example, a brick wall can be a linear bearing support for vertical loads, a load (weight), a wind bracing, a plate carrying horizontal load (windshield) or even everything together. So even with a given architectural shape, different structural concepts can be designed. When the architectural shape is not defined, the search space of the structure is even bigger. But once the structural concept is designed, then the dimensions of the structural elements and their impact on the architectural shape are determined. Therefore the creation of the architectural shape and its structure go hand in hand and need to be treated in that manner.

When a team of architect(s) and structural engineer(s) work together, the structural input during the design process happens both consciously and unconsciously, by architects and by structural engineers: for example, when an architect creates a shape by copying the shape of an existing building without understanding its structure, structural input enters the design unconsciously during the process of shape creation. (The shape will be structurally sound since it is a copy.)
SID means consciously applying structural knowledge when shaping the building and letting structural logic guide the architectural design process. It can be done by the architect and/or by the engineer. SID is about being able to take into account the structural criterion together with the other criteria when evaluating the architectural shape. In our example it would mean that the architect understands the implications on the level of structure when evaluating the copied shape. (If needed, the architect can be assisted by the engineer in understanding the structural implications.) Understanding the structural implications is not the same as understanding the structure on an engineering level: it is being able to evaluate the structure next to other possible structures, on the basis of architectural design parameters (e.g. expression, flexibility, cost, size, material). For example, one can understand the difference between a Vierendeel girder and a truss beam on the level of architectural expression or sustainability, without having to know the difference in bending moment distribution.

When the engineer as expert in the field of structure and the architect as expert in the field of architecture work together in a creative environment to make the best out of their knowledge of designing and evaluating architectural shapes, they need a common language. My research is about determining this language.

**How to make SID happen?**

One possible step in promoting SID is to understand the characteristics of its structural input, i.e. when is it needed during the design process and which form does it take? How should the structural knowledge be translated to be designerly usable? What language can be identified as describing the common ground of architectural shaping and structural designing?

If we master this language, we can teach it to architects and engineers for better communication and creative collaboration. Such a language will also open up the opposite field of expertise: making the architect a better structural designer and the engineer a more creative shape designer, so that within their own field of expertise their design ability will improve. Eventually this will lead to more structural integrated design processes in the building practice.

An evident way of looking at the structural input in the design process is by examining the collaboration between the architect and the engineer: this is a clear moment when structural input is given. But not all structural input is part of a conscious process of evaluating the structural criterion. Therefore exemplary design processes need to be examined, in which the structural input is able to guide the architectural shape and influence the architectural concept. This happens when the design team understands the influence of an architectural decision on the structure of the design.

The main research goal is to determine the characteristics of SID within such a design team of architects and structural engineers and, where possible, to improve it.

The material used for this research will be taken firstly from my own collaboration as a structural engineer with architects and architectural students, and secondly from collaborations between other engineers and architects. The second source of material will be gathered on an international scale by studying literature describing design practices, and on a local scale by studying Belgian practices through interviews and observations. These collaborations will be chosen with the purpose of their being exemplary for SID.

There are three major phases in the research method. First, a frame of reference will be set up by compiling a corpus of literature studies, case studies and interviews of architects and engineers. Secondly, a model for SID will be established by looking for common 'threads' running through the material thus collected, and by reflecting upon the findings of the first part. And finally, the developed model will be evaluated and refined by implementing it in different case studies.
Long live SID!

In a future where teamwork between different experts within a creative environment is becoming increasingly important, their communication is vital. If we are able to understand and optimize the communication between experts in the field of architecture and experts in the field of structure, we will have created a design language (and not a dimensioning language) that is capable of describing the structural knowledge. This translation of knowledge will be understood by architect and engineer: it will make the architect a better structural designer and the engineer a better shape designer.

For SID it does not matter whether the structural input comes from the architect or the engineer, as long as it enriches the design process and keeps the structural consequences of the architectural decision clear.

Creating a shape involves designing an architectural concept and a structural concept. The two concepts are intertwined and capable of reinforcing and inspiring each other throughout the design process so that in the end they become inseparable. By examining the collaboration between architects and structural engineers, I hope to find a common design language for the two disciplines. This language will not only enhance the communication between architect and engineer, but will also enrich the two disciplines. When a design team uses this language, Structural Integrated Design will follow as a consequence.

Laurens Layten

All figures: Copyright Laurens Layten
Photograph taken at the course ‘Research by Design - theories, Methods, Projects’

Architectural Research & Cluster Bombing

Fait Divers

Rue d’Aerschot/Aerschotstraat, Brussels, the 12th of November 2008, 9.50 am.

Accompanied by a fellow participant, I’m on my way to the workshop ‘Navigating in Various Knowledge Landscapes’ being held at the Sint-Lucas School of Architecture. We notice that English words are constantly slipping into the conversation on the subject of research. It seems impossible to find satisfying translations for some catchy expressions, such as for example ‘hands on’. After busting our minds for Dutch synonyms, we just go on using the English in our further conversation.

In the same way, and of more importance for this article, I can’t seem to find an adequate translation in English for the Dutch word *ontwerpen*. The English translation would be ‘designing’ or ‘to design’, but our ‘local’ interpretation of the word ‘designing’ is ambiguous. ‘Designing’ often seems to refer more to the end of its own process, the ‘design’ as the fully finished product, which communicates only through its fixed appearance. Traces of the rich and often chaotic, contradictory processes of its genesis are not included in this appearance. The ‘design’ appears as the endpoint, as the truth, and not as a temporal status quo open to constant negotiation.

In this article, the idea of negotiation and renegotiation constituting possibilities for new and temporal discoveries is essential, both for the design process, the ‘designing’ (designerly thinking and acting), as for the end product, the ‘design’. ‘Designing’ should be more focussed on admitting and communicating negotiation in its process. ‘Design’ should create negotiation through its appearance and trough its use. In the field of architecture, the architectural ‘design’ should establish or open up places of negotiation, places of difference.

Whenever the word ‘design’ or ‘designing’ pops up, it is important to think of it in this way.

note: there seems to be no good English translation for the word *fait divers* neither.

Context of Discovery

Rue des Palais/Paleizenstraat 65,67, Brussels, the 12th of November 2008, 11.45 am.

A short while later, in the workshop ‘Navigating in Various Knowledge Landscapes’, we are discussing a number of different research traditions and their possible relation to and relevance for architecture. One interesting point that arises is the balance between the two ‘contexts’ in science: the context of justification and the context of discovery. A shift in interpretation surfaces, similar as the shift from ‘the design’ to *het ontwerp* mentioned in the previous paragraph.

Science –or at least natural science- seems to be preoccupied with this ‘context of justification’. It is not focused on how or why research questions arise. The central issue is the accuracy in the legitimation of the scientific answer to the research question.
Nevertheless, there is always the ‘context of discovery’, but it tends to be neglected or omitted in the scientific discourse. The world of the answer is more important than the world of the question.

When ‘designing’, and as important, when doing research by or through design, it is exactly this context of discovery that is so essential. It is important why and how questions – or research questions – arise, for whom these questions are important and to what external forces they are tied. It is even more important how these questions stay questions under a continuous reformulation over time. It is vital to see the ‘design’ itself as a context of discovery. In this way, as already mentioned, the architectural ‘design’ should be a space of opening up negotiations, a space of difference.

Photograph taken from the computerscreen, displaying a photograph on the website www.mmun.nl, photograph Johan Liekens
Photograph taken from the computerscreen, displaying a photograph on the website www.tcf.org, photograph Johan Liekens

Research by Design – theories, methods, projects
Sven Hultins Gata, Gothenburg, September 2008

The ‘context of discovery’ can be seen as the main ‘context’ of the course ‘Research by Design - Theories, Methods, Projects’, in which I was asked to participate at the Chalmers School of Architecture in Gothenburg. The subtitle of the course was ‘Investigations in the Extension of Bodies (in the Urban Landscape)’.

The main goal of the course was to familiarize the participants, mostly master students in architecture, with the notion and processes of research by design and to let them construct research questions.

The course takes off from a set of initial games that groups of participants have to put into play on a given site in the city. Through these early experiments, using simple tools, a certain understanding of the site emerges and a set of initial questions is generated.

An example to make this more clear: one group first observed a public square in a rather passive way, from a distance. The results of this observation remained as passive as their approach. Dissatisfied with this, they decided to go and buy sets of chalks.

They scattered these chalks on the square and added the message that anyone could and should use the chalks for whatever purpose they might want to use them for in the square. The responses differed from pure fun to total disapproval. Some little children grasped the opportunity of the presence of the chalks. The chalks for them were tools to make the square even more democratic and public, inspiring them to come back to the place with new ideas every day. But there was also the architect’s wife, who saw the colourful experiments in the square as a blasphemy to her husband’s design concept for the square. The group concluded that a valid initial, researchable question could be: ‘Is a so called public space really public, since it is governed by hidden rules?’ The public space has a different meaning and use to different people. Instead of showing a direction towards possible answers, this question multiplies in other questions to be addressed. The early questions were adopted into the further process of the course.

The course structure from that point on bore a certain resemblance to our known image of a cluster bombing. Instead of a single strike with surgical precision, the participants in the course are affected over a four-week period of time by a series of inputs of varying impact and from a range of directions. The School of Architecture belongs to Chalmers University of Technology, but at the same time it has close connections to the Faculty of Fine Arts at the University of Gothenburg. The course benefits from this double association - with a long record of architectural research (since the 1950s) on the one hand, and strong ties with the contemporary research by design community on the other. The inputs of no less than 13 people from different fields linked to architectural research, and a range of work forms such as experiments, seminars, lectures and workshops guarantee a very broad approach. Thinking about the image of a cluster bombing as opposed to the single strike with surgical precision, the misunderstanding could spring up that the impacts were random and a matter of pure coincidence. In fact, the opposite was the case: all inputs were strategically timed and managed.

Before going into my own contribution to the workshop, I would like to give an abbreviated overview of the course.

As already mentioned, the course takes four weeks, and each week has a specific profile:

**week 1: exploring a situation / staging experiments**
in which the site is explored, experiments are staged, early researchable questions arise and lectures are given on what can be understood as architectural research by design.

**week 2: critical modeling / restaging problem situations**
in which the initial questions are deepened and remodeled. The collected material (on site, through the lectures, through the participants’ own experiments) is challenged and new and possibly more relevant tools are developed to further the investigation at hand. The participants make creative detours. The participants confront their early researchable questions with the broad field of research by design in a literature seminar. In this seminar they per-
The Research by Design course also functions as the first step in the diploma or master thesis work. Thus it is eventually followed by a period of thesis programming, resulting in a strategic brief for the master thesis, which will then be carried out during the following spring semester.

_Framing Architecture_

Home, August 2008

Before briefly explaining my contribution to the course ‘Research by Design - Theories, Methods, Projects’, it is important to mention that in the course outline my lecture followed the lecture ‘Inquiry & Design Methods’ by professor Fredrik Nilsson of the Chalmers School of Architecture. I will not attempt to make a shortened version of his lecture, the key points of which can be retrieved in Fredrik Nilsson’s contribution to the publication ‘The Unthinkable Doctorate’, which was published after the colloquium with the same name held at the Sint-Lucas School of Architecture in April 2005. During his lecture, Fredrik Nilsson mentioned the notion of ‘object languages’. For me, this notion formed the essence of what I would be talking about right after him.

At the start of preparing my contribution to the course, when thinking about my contribution, it was especially the specific subtitle that caught my attention: ‘Investigations in the Extension of Bodies (in the Urban Landscape)’. The idea of negotiation in combination with an architecture or an architectural language that makes this negotiation physical and experiencable, I re-encountered in the work Denkmal 9, installed by the Belgian artist Jan De Cock in 2004 in the Ghent University Library, itself an architectural masterpiece conceived by Henry Van De Velde. In a text included in Jan De Cock’s book Denkmal II, Wouter Davids states that it is surprising that Henry Van De Velde equates the aesthetic significance of an object –which I interpret in the context of Henry Van De Velde as a measure of this object having succeeded– with the near absence of any need for words (remember the already mentioned idea of the ‘design’ as the finished product, communicating only through its fixed appearance). Good objects, significant objects do not ask for any words, they are not to be questioned or discussed: significant objects are objective.

Photograph taken from sketches, published in Liekens, Johan; Matthys, Koen; Vanmerhaeghe, Karolien; Waerlop, Liesbeth (1996). Turkije, een Onderzoek naar de Ruimtelijke Beleving van Traditionele Concepten, photograph by Johan Liekens.
Wouter Davidts continues, however, by saying that one could argue that understanding the ‘aesthetic’ significance of an object is not so much the outcome of objective description as of critical reading. This implies that the significance of an object, such as architecture, is continuously being negotiated over time. Denkmal 9 really works as an architectural installation installing a negotiation. Its site is the unfinished reading room of the Ghent University Library. The reading room really can be seen as unfinished, since its architecture was intended to become the vehicle for three murals by the famous Flemish artists Constant Permeke, Frits Vandenbergh and Gust De Smet. For Van De Velde, the credo of the gesamtkunstwerk, positioning the arts under the protectorate of architecture, had a quasi religious significance. The Second World War decided otherwise, and the murals were never made. Through his installation, Jan De Cock accentuates this ‘void’, commemorating this important moment in the buildings history and touching a central and unanswered theme in the work of Van De Velde. He does not make a reconstruction or a restoration. Instead, he calls the relationship between art and architecture into question, the questioned relationship which is also the core of his profession, practising the art of site specific installations. With his mould, he installs a place of negotiation in the heart of the architecture he visits, literally reframing the significance—or better the significant moment—of the space.

My lecture covered the physical appearance of Jan De Cock’s object language (the 1:1 scale, the materials used, the idea of frames, the perspective,…), but I also talked about this (re)installation of a negotiation specific to the site. In this way, the denkmals [‘monuments’, ‘memorials’] form true extensions on a 1:1 scale of our human body, physically, and of our memory, our intentions and our beliefs at the level of the mind. I also believe this object language to be true research by design, since this language is gradually and continuously evolving through its application on real and ‘strong’ architectural sites, adjusting and refining itself along the way.

Photograph taken at the entrance of the Ghent University Library, with a portrait of Henry Van De Velde and in the depth of the former entrance window a window-bill with an image of the Denkmal 9 by Jan De Cock, photograph by Jo Liekens.

Open Ended Conclusion

Participating in the course ‘Research by Design - Theories, Methods, Projects’, preparing the lecture about the Denkmal 9 and writing this article enabled me to make some thoughts, formulated in the Research Training Sessions, such as the thought of the context of discovery, cross with my own beliefs in architecture and with real spatial and physical practices as in the site specific installation art of Jan De Cock. It produced a clearer understanding of the importance for architecture to incorporate negotiation, in the ‘designing’ and in the ‘design’. Instead of being too concerned with the appearance of the end product, the ‘design’, architecture should see itself more as an instrument enabling the installation of negotiations and the celebration of differences. There should not be an overfocus on architecture as an answer, but on architecture as a possibility for discovery and a multitude of questions. I personally believe this vision has also some very firm ties with what we are trying to do in our Denkstudio, which is a part of the design courses in Interior Architecture at the Sint-Lucas School of Architecture.

Jo Liekens

1 Navigating in Various Knowledge Landscapes, a workshop held at the Sint-Lucas School of Architecture, organized and moderated by professor Halina Dunin-Woyseth and professor Fredrik Nilsson, November 2008, Brussels.
2 Research by Design - Theories, Methods, Projects, a course held at the Chalmers School of Architecture, organized and coordinated by Catharina Dyrssen, September 2008, Gothenburg.
Starting up a new design process
Dealing with the complexity of reality

Beginning

Starting a new design is like standing on the edge of a swimming pool. The water is deep, cold and blue and you don't see the bottom. You don't want to dive but you know that when you make the decision to jump it will be enjoyable. But before this moment of pleasure you wait and doubt, you delay the decision to feel free and sometimes you are afraid to feel the wetness of the water. You walk around the pool and look for the best place to dive. Maybe you climb on a platform because there you have an overview. Then you put on your mask, look down and...dive.

In this article I want to describe the first embryonic movements which take place at the very beginning of a long study process in architecture that will be an attempt to answer a number of questions like: What is at the basis of the design process in architecture? How do we start the process? What are the methods we should use at the start? First of all, we need a client who is interested in the things we do. They call us and make an initial appointment. In this first meeting, we talk about the location and the building plot. After this first conversation, an architect starts dreaming. The text you will read below is an attempt to explain the methods we use in the beginning of the design process in our own practise (architects Tomas Nollet and Hilde Huyghe) after the first contact with the commissioner.

Travelling

After the first discussion with the client, we initiate the design process, we start up a new design process moving our thoughts toward a location and its context. Each new issue implies a journey with a departure out of our home or practise. We consult a map, looking for the best way to get there. We prepare in an accurate way the route and this leads us along places that are saved in our memory. The anchor points are crossroads, landmarks, landscapes, villages and cities. As we drive along, the recognisable points are changing into new landscapes and perspectives. Each new trip implies the exposure of new data. We pass by locations where we have never been and we save images of places we have never seen. We make associations, for example, if the village is near the sea with holiday and summer. The weather is often the first partner upon departure, and it defines in a large measure the atmosphere that will be present at the location. Already upon studying the map, we start dreaming and having expectations. Travelling is preparing. When we visit the place, we take some research...
tools with us: a sketchbook, a measuring tape and a camera. We put on our boots and a warm coat because it is cold and it will be raining. In the car there is music playing. The first view from out of our car towards a location is sometimes accompanied by seemingly trivial elements like the weather and the music.

This first impression is a fragmentised view framed by the windows of the bodywork of the car. Moving in the vehicle, I get a first glimpse of the location and its context. I drive along it to study the morphology and its wider context. In a first impression you see an amalgam of different building typologies, streets and movements with colours, textures and shadows.

**Drawing a scheme**

I translate this spatial experience – which cannot be read on a map – into a scheme. This is a little drawing I make in a sketchbook. This scheme arranges my perception and it frames the location within the context in a graphical way. The scheme is the first communication tool which is used to start up the discussion in our office. Information and perceptions are reduced and placed upon an A5 sheet of paper. Besides reducing the reality, the scheme contains extra information that cannot be seen on the location, such as for example the lines of movements. Arrows can show us the scenography and point out a reality with the introduction of movements. Buildings are shown in a geometrical grid, threes are curving lines. The crucial point is that with such a scheme you can very quickly draw a new situation so that you can imagine a new status of the context. Sometimes in the beginning a scheme contains a detail like a staircase, a door or a window. Just like the illustrations in a children’s book, the drawing leaves much space free for the imagination to work in. As a designer, it is pleasant to stay in this phase of making simple drawings because you feel a great freedom in it, and the experience bears a close relationship with the arts. Sometimes small drawings – even little doodles – can be transformed into significant documents by enlarging them on a copy machine. Irony is a good friend in this phase of designing, when the obvious complexity is minimized and the whole point is to open oneself to the reality.

Making schemes is a very important study method in our practice because the scheme reveals relations between different parts of the context, being a simplification of the complexity of the reality as we experience it. The scheme is also the first jump (dive) into the abstraction of the complex reality, and this abstraction plays an important role in the further development of the designing method. Architecture is a complex affair. Drawing the scheme is a method for placing this complexity within a perspective and grasping it. With a few lines and arrows, a quasi-unreadable situation becomes clear and transparent. In a way, the complexity is eliminated and lucidity has taken its place.
Strolling and refining the perception

By driving in a car you can get an overview of the location, by strolling you can experience it. The promenade starts near the location where we shall build. First you see the emptiness of the vacant lot. Automatically, different images emerge and associations are made. In a situation where we have to build a new terraced house, for example, our own house plays an important role. Sometimes in our mind’s eye we place our own house in the empty lot and try to experience how it will be to dwell on that specific location. We project the rooms of our own house onto the location and we move through the plan.

As we move, our imagination can for instance put the sea in front of an existing window and thus our house becomes a holiday home. I’m using my knowledge and experience to reflect upon that new situation. With my know-how and my architectural repertoire, I can feel how it will be to live on that particular site. By the inertia of dawdling, it is possible to use my knowledge to refine my perception. By walking from east to west, I’m building up empathy. Empathy is essential in the design process because you place yourself in another situation. Strolling and dawdling is a method to generate or release that empathy and it will be playing an important role when we define the program of the building. By strolling we can use our senses. One can smell a location or feel its surface. One can hear the context or see important things. In our practice we feel the importance of repeating the act of strolling. Sometimes we go back to a location several times. Every time, we see something new that could play a role in the design. At a certain moment we come to feel that the repeated visits are no longer necessary, that the different themes have come to expression, and that the complexity of the context has become readable.

Looking with your hands

In the process of strolling, moments can be introduced for making drawings or sketches. These drawings contain much more explicit information than a scheme. While a scheme has deeper connotations, sketches show us the reality in a more realistic way. Sketching is a language and, like any other language, you have to learn it. You can both make a sketch and read it, or you can read a sketch made by someone else. We look with our hands at the existing buildings and try to capture the information that they are telling us. Our hand is a projector and the paper is a screen. This is a very interesting study method because drawing with patience gives us a lot of information about materials, connections, textures …

By sketching it is also possible to gain information about harmonies. By pressing harder or softer with your pencil, you can get other expressions and, in a way, make different interpretations. Pencils can make shadows or studs can mark differentiations. Just as in making a scheme, it is important to reveal openness and simplicity. You do not have to construct reality like it is. Rather, you make a projection with a reduction of the things you see, thus making reconstructions. Despite the introduction of the digital camera, it is a fact that sketching is on the way back, but I want to focus on the importance of making a halt in the promenade. Sketching is an old fashioned way to get your information, but in our office we believe that the act and the art of sketching is still of this time.

The empathy discussed earlier is constructed for a great part by drawing the different lines. After reading the location by strolling and by using the sketch method, it is possible to make an abstract vision of the context. By using colours, aquarelle for instance, the relationship with the arts is explicit.

Photographing and reading pictures

Besides sketching, we also take photographs of the lot and the location where the building is to be constructed. The moments when we are taking photos are also stills in a long process of watching and feeling. In our study of the location, we take a great number of photos. The process is comparable to that of sketching, but while in sketching the format is mostly A4 and the reading of the location is going on in the meanwhile, in a photo we have the format of the lens and the reading takes place afterwards. You look through the lens and see a part of the context. Reality is framed. The sum of the photos is a whole of different realities, each with its own position. A new two-dimensional reality is born. It is in this reality that we shall work to organise a new design. The motivation behind taking different photographs is the...
interest in understanding what we see when we are looking at something. After the
act of photographing, we make descriptions of what we have seen with the help of
the photographs. This description, made afterwards in the office, can be verbal but
also written. While making these descriptions, we frequently notice that parts of a
location that were invisible looking through the lens have now become more explicit.
For new projects, we have also made videos but this method is not so appropriate
because when you want to watch the result you need a tool to project the film. One
possible way to read those videos is to make stills of some interesting parts. In our
office we use these stills as we use sketches and photographs. The reality in which we
work has to be frozen.

Concluding – the first methods used

I have described different methods for getting a grip on the complexity of the reality
and starting up a new design process. The making of a scheme frames the first
impressions in a graphical way and configures the basis for the initial discussions.
Sketching produces extra information about the location: in the sketch, what you
see is unravelled. Drawing is a method for making descriptions and translating the
reality into manageable knowledge to be communicated. Complementary photos can
be taken because they store supplementary information on the location. These three
methods are used to store memories and save them for the future design process.

Often, the combination of methods is used to get an interesting and open grip on the
reality. For example, in a design sketch for the Ramen Housing Project we used the
technique of drawing with pencils and a black and white copy of a photo.

The combination results in a readable two-dimensional image that opens up different
interpretations. And that is the goal: to feel free in this part of the design process,
where we aspire to openness, inspiration and creativity.

Tomas Nollet, November 2008

Thanks to Fredrik Nilsson
Redirecting Belgian Sprawl.

For the past two academic years (2006-07 & 2007-08), design studios within the uAD track urban Architectural Design) have been working to orient incoming Erasmus and other international students to the field of urban-architectural design through specific assignments related to typical aspects of Belgian suburban conditions. These assignments are set up within a comparative framework which introduces certain concepts, for instance, of Japanese planning and regulatory tools, enabling students to provide alternative answers for Belgian suburban areas.

In addition, the design assignments have been conceived following the main concepts of the ‘Fibercity 2050’ model developed by the Ohno Laboratory at the University of Tokyo. Basically, the Fibercity is an alternative urban model developed for the Tokyo Metropolitan Area, emphasizing the need for an editing process from within the existing conditions in a context of an ageing and shrinking society, and an increasing redundancy of various kinds of public and private infrastructure. The city is interpreted as a network of overlapping transport ‘fibers’, and desired alterations are simulated over a period of 50 years extending into the future.

The choice to apply the Fibercity 2050 model in a Flemish context is no coincidence, as Japan is at the forefront of a new paradigm, and focus has shifted from an economic growth model to a model mainly dealing with the consequences of shrinkage, generating a very different view of the future of our cities.

As in any industrialized country, Japan went through a cycle of rapid development after the XIXth century, and after the oil crisis of the 1970’s, urban planning became increasingly dominated by neo-liberal ideology, intensifying urban transformation and reducing the city to a commodity. Obviously, such dynamics will be impossible to maintain in a context of a shrinking population and stagnating economic activity.

Compared to most Western countries, Japanese industrialization developed in a more contracted time span, and the country is now a first example of an evolution only slowly appearing on the political and societal radar of other advanced countries.

Through a predicted ‘contracted’ process of shrinkage, the Japanese population is expected to shrink by roughly 30 to 40 million people by 2050, which will mean a decrease of about 25%.

Already the impact of this demographic trend is having a measurable impact on the functioning and development of Japanese cities. Though the consequences of this major demographic shift have become a dominant issue in Japanese politics, urban planning policies have remarkably remained largely unaffected.

In an attempt to fill in this gap, the Ohno Laboratory, of the Department of Environmental Studies, Graduate School of Frontier Sciences, under the guidance of Prof. Ohno Hidetoshi, developed the concept of the Fibercity.

Specifically conceived and developed for the city of Tokyo, the Fibercity model holds some universal strategies which might be applied in any large metropolis. However,
Envisioning Tokyo as an incubator for a new suburban model in Belgium and the Flemish region might at first seem farfetched; demographic trends in Belgium are much less ‘apocalyptic’ than Japan’s. According to the latest estimations, the Belgian population is even expected to increase from 10.5 to 12.5 million the coming decades\(^4\) though the ratio between aged and active citizens and the influx of immigrants will of course dramatically alter society. In terms of density and land area, as well, Flanders cannot be compared to the Kanto\(^6\) area with its 40 million inhabitants. Obviously the relevance of the Fibercity model as an alternative planning vision or model for Flanders should not be sought in comparative features in terms of scale, density or planning tradition, but rather and especially in terms the existing and historic urban conditions and attitudes from which it originated.

A key aspect of the Fibercity is its strong focus on shrinkage which, in contrast to more traditional expansionist planning strategies, concentrates on ‘folding’ back built-up areas. Within this conceptual framework, yet far removed from any explicit top-down planning strategy, one of the aims within the uAD design studio was to simulate a gradual densification of suburban Flemish areas, as it were to redirect these areas within an extended period of over fifty years towards a more economic use of land, and more specifically an intelligent settlement pattern served primarily by an improved public transport system.

Obviously, any densification within the context of a shrinking society implies an acceleration of the ‘dilution’ especially of the suburban areas, which if left to chance alone might lead to a severe degradation of such areas. In addition, a forced densification imposed by local or national governments would generate exorbitant costs if based on the traditional planning tool of expropriation. Henceforth, one of the main issues within the conceptual framework of the design studio was to devise a methodology which could generate the intended densification, while simultaneously restricting the process to private initiatives. In regard to this kind of approach, the origin and original mechanism of Belgian sprawl offers interesting potential.

In Belgium, and also Japan, the relatively high percentage of small land owners has generated a very distinctive pattern of mostly one by one developments, limited in scale and number and very often limited to single housing units, hence the definition of ‘atomic sprawl’.

Though rebuffed by all planning strategies, the mechanism causing ‘atomic sprawl’ did shape most of the suburban landscape. If instead of negating these patterns resulting from the persistent Belgian ‘liberal attitude’, we were to re-assess them as a potential tool to redirect the process of development and future densification of the Flemish territory, then the developed ‘Fibercity’ concepts could provide an interesting planning alternative for Flanders.

**Fibercity, tools and practice**

To the European eye, certain aspects of the Fibercity might appear quite utopian, or even contradictory. Though claiming to edit the city, the Fibercity model developed for Tokyo actually relies to a very large extent on a drastic relocation and densification of entire neighbourhoods around public transport nodes.

Such ‘clearance’ of large built-up areas might be impossible to imagine in a European context and can probably not be understood without taking into account some very different attitudes in regard to the permanency of property and the built environment in Japan. These different attitudes and traditions can clearly be discerned in Japanese urban regulation, and by extension also in the Fibercity model.

Literally transplanting Japanese planning techniques or regulation to European conditions makes of course no sense. Japanese planning tools came to take on their current configuration through a long process and the specificity of Japanese culture, politics and society. Interestingly though, many Japanese planning tools were ‘imported’ in the late XIXth and early XX\(^{th}\) centuries, and some of the original and basic tools are mainly of European, and more notably German (Prussian) origin. In a certain way, for the uAD design assignments these Japanese planning tools were re-interpreted in view of their potential within the Belgian context, and as it where ‘re-exported’ to a European context.

‘Transferable Consolidation’

Tapping thus into Japanese practice, attitudes and conditions, specifically the tool of ‘land readjustment’ and its European predecessor of land consolidation were being re-interpreted and remodelled into what was defined as a ‘transferable consolidation’, as a means to stimulate a shift in property behaviour, leading in the long run to a Fibercity suburban model.

Basically the main aim of the ‘Transferable Consolidation’ tool is to realize the relocation of housing and/or buildings from locations unqualified to be integrated into the Fibercity suburban model. Basically the main aim of the ‘Transferable Consolidation’ tool is to realize the relocation of housing and/or buildings from locations unqualified to be integrated into the Fibercity model.

To get a better insight into the backgrounds of this new ‘fibertool’, a brief overview of the main components composing the ‘Transferable Consolidation’ tool are given here:

**Land Readjustment** (LR): Often defined as the mother of Japanese Planning, the tool of Land Readjustment offers an interesting insight on how Japanese planning had to cope with the seeming disadvantage of being unable to expropriate. At its core, this process can be simply defined as a ‘give and take’ process in which owners basically renounce part of their property (land) in return for additional building rights or another form of bonus. The tool of land readjustment was mainly used to improve ‘hard’ infrastructure, such as the widening of roads, construction of sewage systems,
Typically, implementation of the Land Readjustment schemes often takes 30 years to complete, mainly because owners are responsible themselves for the reconstruction of their property, and are not inclined to do so before their property is written off. A slow, piecemeal implementation is the obvious result.

To most urban planners in Japan, the overall impact of ‘Land Readjustment’ is regarded as a serious failure. In times of high growth it had its local merits, as it allowed certain adaptations, but it failed entirely on the level of the scale of the city, because of a manifest lack of a grander vision. In addition, the LR tool for most municipalities was simply an easy way to divert the burden of infrastructural investments, as most of the financial costs were carried by private owners. Interestingly, these negative associations take on a very different character if looked upon from the perspective of a gradual urban adaptation, shrinking conditions, and perhaps most important a focus on ‘soft’ infrastructure instead of ‘hard’ infrastructure, and last but least, a government struggling with the effects of the ageing population and with steadily declining funds to spend on public infrastructure.

Whereas the tool of Land Readjustment is commonly applied, certain more advanced ‘bottom-up’ planning tools, such as ‘Machi-Zukuri’ (MZ) have been developed over time, though these are much less widespread or successful. Here again, the aim is not to copy these tools, but to determine the underlying techniques.

Difficult to translate, the term Machi-Zukuri could be defined as neighbourhood (Machi) improvement, but seen as a total process, with all inhabitants involved together, (Zukuri). Equally applied under a wider district planning umbrella, Machi-Zukuri can also generate very interesting effects at a very small scale.

Such schemes do not merely ‘adjust’ property from the viewpoint of infrastructure or fire regulation, but they generate a complete make-over of all properties and how they interrelate, and perhaps more importantly for the concept of Transferable Consolidation, some MZ schemes do actually focus on the improvement of ‘soft’ infrastructure.
In the example given above, the MZ approach ultimately led to a drastic and complete make-over of a number of existing properties, all owned by related family members, into a ‘three-generation’ housing configuration, at the same time solving many problems related to the gradual splitting up of the originally agricultural land into ever more portioned housing sites. Though this particular case was initiated by the local city authorities, in the end the whole development was auto-financed by all the owners.

Returning to the European context, it is interesting to note that the origin of the land readjustment technique actually was derived from a peculiar interpretation of Land Consolidation, as it was applied in Prussia from the XVIIIth century onwards, to improve agricultural yield through rationalizing property and operational structures. In Belgium, agricultural consolidation, though introduced only in the second half of the XXth century, was also applied, initially mainly under pressure of the increasing mechanization and later EU regulations, which exerted pressure on farmers to become more efficient.

In view of the Fibercity concept, and the idea of formulating tools rendering its implementation possible, it is thus interesting to note that even though the (legal) Flemish urban context is entirely different, and makes use of very different tools, there is a Belgian precedent when it comes to the concept of transferring property in between owners.

To enable students to implement a fiber design strategy, the Land Readjustment, Machi Zukuri and Land Consolidation approaches were recombined with the explicit intention to develop a planning tool for the Fibercity, thus making it possible to edit the landscape and ‘redirect’ settlement patterns. In addition, because of its usage as an architectural design tool, the main consideration was the line of approach of the users, e.g. planner, designer, architect and property owner, working on a local scale, and of course within the long-term goals of Fibercity 2050.

Defined as ‘Transferable Consolidation’, the developed planning tool thus mainly aims to optimize land use and linearly expose all habitation maximally to public transport. Simultaneously, alternative ways of cohabitation and land use are encouraged, banking directly on the Machi-Zukuri experience, while updating and renewing building stock, which is perhaps not an unimportant stimulus in times of shrinking economies. Such a process would be mainly carried out through recognizing the small property owner as the main actor, by focusing on a gradual relocation of individual projects, and by leaving room to a certain level of haphazardness instead of adhering to a strict master plan.

Owners would be stimulated through an incentive based policy, which as in LR policies offers increased development rights to those owners taking the step to relocate and rebuild. However, in addition to the LR technique, portable property rights are introduced, taking the adjustment to a next level, as properties are not just being adapted but effectively relocated.

The most important thing within such a perspective is that these relocations are envisioned within an extensive period of time and must be based on a balanced and integrated exchange, creating new value and promoting redevelopment that can at least compensate previously held property with the additional advantage of stimuli to encourage owners to participate.

Within such an exchange, a gradual and phased fade-out scenario is realized over a period exceeding 50 years, designating certain areas as appropriate to relocate over time. In view of the Japanese LR experience, often taking 30 years time, and bearing in mind the relatively rapid ‘turnover’ of buildings in Japan, where the life-span of buildings most of the time does not exceed 25 to 30 years, within the Belgian context a period of at least 50 years is envisioned. During this period, the property controls and options for owners are gradually being restricted to ultimately result in a relocation (reconstruction) and removal (demolition) of the original property.

The 50 year period also makes it possible to implement the exchange and relocation process simultaneously with ‘natural’ transfers between owners, such as for instance an inheritance, where at such times it is not the ‘immovable’ property that would be inherited but rather the ‘portable’ property rights, thus allowing the new owners to simultaneously inherit both the financial value and the ‘relocated’ land. At this point the (new) owners can decide to rebuild, which through the bonus system should allow them to construct facilities with higher market value than the original (abandoned) property minus construction costs.
Evidently this requires a significant level of investment and, for this reason, many owners would probably opt to sell their portable rights to third parties, which in the end would be a more desirable choice, especially in the case of elderly people aiming to relocate towards areas with better public facilities. Any such scheme would by definition attract all kinds of speculation, which, though necessary to actually realize the intended changes, would certainly need to be controlled so as to avoid an unlimited expansion of building stock, which would be counter to the basic idea of the Fibercity concept. As such, the whole exchange is to be implemented within a strictly controlled ‘zero-sum’ exchange.

Such replacement of property, or the concept of portable rights, inherently also involves the destruction of private property and value, a most delicate issue. The underlying idea of the Fibercity is to generate changes at limited or no cost to the government, and therefore the idea of financially compensating owners for relocating is a non-issue. And this means that the destroyed value must be recreated in some way. Thus the crucial thing in the whole scheme is the creation of new value and the zoning or designation of land for housing construction that up to now had been unsuited for that purpose. In that regard, if we look more closely at current conditions and especially at the zoning plans in Flanders, we see that an amazing amount of land is either unused or under-used, and can simply be defined as ‘leftover’, most often wedged in between either different planning zones, or infrastructures or both. Proximity to public transport is crucial within the Fibercity and, interestingly, a lot of such wasteland originates because of the initial construction of transport infrastructure. Conveniently, much of this land is also owned by government controlled organisms, a fact which facilitates the exchange and the different intended uses. Implementing the idea of the Transferable Consolidation within this framework would thus gradually remove outlying private properties and transfer them to areas served by public transport constructed on land which currently is deemed worthless due either to zoning plans or to the fact that they are part of buffer areas, clearances next to infrastructure and so on.

Such thinking requires a very different approach as to the quality of such ‘leftover’ areas. – These are very often long strips of land, and constituted the main design task of the uAD students. Through an intensive design process, the potentialities of such areas have been explored and their overall impact simulated on a larger urban scale. A less obvious task was how to determinate effective values of properties to be transferred within the transferable consolidation scheme. When determining the value of a property in anticipation of its transfer, a variety of parameters and values come into play, only a few of which are given here. Five of these (bold) were used within the uAD assignment to determine the value of six selected examples, which, though singled out intuitively, can to a certain extent be regarded as ‘average’ examples.

The five selected parameters are all within the realm of architectural expertise, or can be easily deducted from a variety of sources.

Case studies, example 1
As such, total Value Purchase-Construction (VPC) expresses the current value of the property if the land and house had to be purchased and constructed at this moment. The Actual Market Value (AMV) represents the value of the property if sold today. The Reconversion Frequency (RF) simply indicates the number of times properties have been renovated, influencing the overall appreciation of the property in relation to its age. This parameter is only indicative, but it can help to explain large differences for the VPC and AMV parameters within similar areas.

Recycling Efficiency (RE) values the construction of the house in terms of the recycling potential. Energy Efficiency (EE) is based on surveys made by the Flemish government, calculating the energy consumption of private houses.

The values are expressed on a scale of 100, and then weighed down to determine a single value per house, on its term recalculated on a scale of 100, using the most representative house as a standard. The standard ‘100 point’ house was selected on the basis of its surface, construction methodology, age, etc., but also because for a large part of the suburban dwellers it still represents the ‘average’ house. A limited number of six cases was studied for the Kapelle o/d Bos assignment.

Apart from determining the intrinsic value of the properties to be transferred, the students were also asked to define a desired bonus, also expressed in points, so as to give sufficient incentive to effectively motivate owners. In addition, the students were invited to generate specific architectural programs, for which they could rely on the typical examples mentioned. The programs were then recomposed, allowing for a focus in the design studio on multi-generation housing.

Shown above, a bonus generated recomposition of different properties is shown. For three existing single units (houses), the design assignment required them to be redesigned to a recomposition of three multi-generation units, with possible additional units integrated as a bonus. In view of the design assignment context and limited time-frame, students were asked to determine these programs using personal data.

Kapelle o/d Bos, a case study

After some consideration, the small town of Kapelle o/d Bos was selected as a case study. Situated on the N-S axis between Brussels and Antwerp, and on the E-W axis between Mechelen and Dendermonde, which continues west to Ghent, the town is located in between the two motorways connecting Brussels and Antwerp, the E19 and the A12. Apart from its historic core, Kapelle o/d Bos is doted with a variety of sprawl variants, spanning almost two centuries.

A more peculiar fact is that the town is carved up by two major ‘hard’ linear transport infrastructures: the canal from Brussels sea port to the river l’Escaut (leading to Antwerp) and the railroad from Mechelen to Ghent, which give the town a particularly low standard when it comes to urban quality, and yet an easily readable infrastructural potential.

Due to its central location, the town is also served by a number of local and regional busses, further adding to its potential to shift the inhabitants’ dependence from private to public means of transport.

Finally the town is characterized by the presence of the ‘Eternit’ industrial complex, based since the 1920’s in the central part of the town, its seemingly haphazard expansion over time further reducing the overall quality of the area.
The juxtaposition of all these infrastructures makes Kapelle o/d Bos a rather distinctive case, especially in view of its small scale (it is one of the smallest towns in the province of Brabant, which surrounds the city of Brussels). On the other hand, confrontation with these ‘hard’ lines creates multiple opportunities to explore different cases of densification and rationalization of land use.

**Case studies.**

To facilitate the development of possible alternative visions of land use, the town of Kapelle o/d Bos was partitioned into different project areas, or ‘dormant’ fibers, defined in terms of their potential as a future contributing factor to the concept of the Fiber-city. For each of these areas, separate strategies were developed, which in a secondary phase were merged into one comprehensive master plan for the entire town.

**Dormant Fibers**

**Case 1: railway embankment**

As shown above, the combination of the railway embankment and the uncompleted stretch of express road creates an interesting potential if the distinction between the zones is being reconsidered. Moreover, if we take an increased railway frequency as an established fact, possibly combined with modern light trains, a re-interpretation of the railway embankment, in combination with consolidated land readjustment, might contribute to a much denser town centre while embedding the railway within the city fabric.

**Case 2: canal embankment**

The canal operator, the ‘NV Zeekanaal’, a public-private entity, not only owns the canal, but also the adjacent embankment and former towpaths, which later were developed into roads. This whole area is designated as a maintenance zone. However, in view of the changed situation, with the maintenance now being water-based, and evaluating the canal not just as infrastructure but also as a promising area for urban development, the whole area’s potential changes dramatically. As all the land and infrastructure is owned by one public-private company, now solely entitled to operate the canal, the implementation of a consolidated land readjustment is not too difficult to imagine. Such an undertaking would entirely alter the town of Kapelle o/d Bos, giving it a real face to the water.

In addition, the canal also holds an enormous potential as a new public transport axis. Leading straight into Brussels, serving an important and densely populated area of the Flemish heartland, a water-based public transport system would directly connect to various transport modes in Brussels (subway, bus, tram, etc.).

- Residential zoning (exclusive)
- Infrastructure, independent PPC (infrabel) railway operated by Belgian Railway Company + different transnational companies
- Canal Infrastructure, operated by independent PPC
- Infrastructure; regional road
- Agricultural zoning
- Optimized land-use, emerging fiber
Case 3: the Eternit industrial complex
When analyzing the organization of the company’s building infrastructure, it is clear that when zoning is discarded and when such Fibercity concepts as green fingers are applied, thus expanding the length of the buffer perimeters, the site offers an interesting potential for the expansion of housing onto it. This would improve the quality of the adjacent streets and integrate industry and town, while at the same time greatly increasing the value of the land. Because of a one-to-one ownership situation, the technique of transferable consolidation is easily applicable here, further enforced by land readjustment, where it concerns the private owners.

Case 4: Rethinking the Flemish landscape
While the Eternit site, the canal and the railway embankments all offer interesting opportunities when being evaluated for their consolidated land readjustment potential, the proposed measures could also simply be applied in order to promote densification.
THE STORY OF A SUPERMODEL OF A GODDESS
A Secret Report

Abstract
The designing and making of scale models as a design-research tool is an ‘object’ of only recent discovery to the author. It also is the subject of this article.

This article is a reflection on the question: How can the making of scale models become a legitimate tool and part of a method in a PhD project in Architecture? Accordingly, this article will only barely scratch the surface of the research topics to be dealt with in the PhD project itself.

Rather it tells the story and the whereabouts of two imaginary cities – ‘Supermodels of a Goddess’ – which have been produced to contain three of the author’s architectural designs, selected by himself out of the body of work he has realized up till now. One imaginary city, containing these architectural designs, was created for a London exhibition in July - August 2008 at Westminster University School of Architecture and the Built Environment (‘The London Tapes 1’). Another imaginary city, containing the same architectural designs, was created for a Brussels exhibition in September 2008 at Sint-Lucas School of Architecture (‘The Brussels Tapes’), within the framework of the 8th Research Training Session ‘By Design For Design’.

In ‘A Letter from a Decade Three Floors Below’, the personal background of the author and a link with both the Reinvention of the Polis and the scale model as a method or instrument is sketched.

In ‘The Prophetic Content of the Trojan Horse’, the concept of scale models as an instrument of investigation and communication is compared with other instruments and the methods of splendid ancestors and colleagues from the glorious past and present of architecture.

In ‘A Supermodel of a Goddess: the London Tapes 1 and The Brussels Tapes’, the concept of combining distant geographic frameworks and far away time zones in the making of these scale models is described through the metaphor of the making of an imaginary painting. Subsequently, the selection process within the author’s own body of work is described through the metaphor of characters in a theatre play and a crime scene investigation with an imaginary autopsy.

Finally, the author gives some recommendations, especially to himself, in a short concluding chapter.
A LETTER FROM A DECADE THREE FLOORS BELOW

A Secret Inner Dialogue with the Author’s Past

“If a person takes good care of himself, he takes care of his best friend”. 3

Recently I had the good fortune to receive this confidential letter from a friend from long ago, that little boy in the precious bubble of childhood. 4

He wrote a sincere confession to me:

“...If a person takes good care of himself, he takes care of his best friend”.3

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Dear Me,

My dreams were already taking shape at the age of nine, when I started to invent my own Polis - and more than one! As a young boy I drew plans of strange and imaginary cities, fascinating myself with rivers and decks, railways, motorway interchanges and skyscrapers. Today, I call those creatures from back then ‘Invented Cities Zero’. In the meantime, teachers anxiously kept me away from dreaming and drawing, insisting they were to teach me useful mathematics and things like medieval history, which matched very well with the feudality of my humble pubertal state of being, beginning to see girls in the utmost beauty of their appearance…. .

I learned how to be an architect. I understood the sense of mathematics. But I kept resisting the prohibition of my dream, secretly hoping for the proliferation of it one day. I lied “no”, when somebody asked if I was still longing for it. It was my own private conspiracy, my RESISTANCE, my 39 years of ‘wait and see’.

With Poetics as my answer to the sad and muddy obedience of the world, I could resist and produce a small body of work as an architect.

So, “I never lost control,” face to face with the man who sold the world”. 5 “ISN’T THIS HOW IT GOES? (The “…control, face to face…” does not make sense to me I see, but it is like that in the David Bowie song, and since this is a quote….)

I can put forward my assumption that – with my Poetics as my method in the In-Between –, I am ready to reinvent the Polis through design. Hence, I need a tool to investigate this assumption and to communicate its potential and the results.

It is my belief that this method just might inspire others, and by so doing become useful new knowledge for the world. From Subtropolis to [Metro]Polis.

From this stance I will call the designs to come ‘Invented Cities Z’, and look upon the wasted time between Zero and Z as a blessing, my forty days in the wilderness, my hour of darkness before finally seeing the light reflected in the tears of the Goddess.

I will comfort Her by reinventing – especially for Her – the new Polis by [my] design [method]. I will research it, I will test it and proclaim it in Her Agora.

THE PROPHETIC CONTENT OF THE TROJAN HORSE

The Reinvention of the Polis starts with a humble critique in the margins of a domain. Subsequently, the critic himself infiltrates the domain and trespasses into the voids in which to settle in order to generate a lean change of the Polis from within.

This is not the author’s place and time to unfold his critique on the ‘lack of Polis’ in actual cities, nor will this article be a description of a remedy or a medicine to help a patient under the custody of strange agents of a sinister occupying army. 6 There is still a whole PhD project ahead of us to be dedicated to these issues.

Just as Rome wasn’t built in a day, the Reinvention of the Polis takes patience, effort and a well conceived strategy.

In history, two splendid ancestors from the glorious past of architecture and one provocative and profoundly acting contemporary colleague had/have their specifically developed instruments and methods to project their visions of a time to come.

Of course there were many more of them, but these three are the object of the author’s special attention for the way they treat their own imagination and/or the way they analyse the potential of their own investigative tools.

Giovanni Battista Nolli made propositions for the reinvention of his Polis – Rome –, not by building them, but by making tempting propositions through skillful graphic representations driven by his imagination and the way he saw the future of humanity. 7 More specifically, and by means of his appropriate drawing technique, Nolli represented enclosed public spaces in public buildings and churches as open civic places, hence acknowledging the importance of public space and the civil society in the way he saw the Polis8 in a period of history after the Contra-Reformation and the Inquisition when the Papacy had to consider sharing its power with the upcoming civic mercantile society, yet allowing and even ordering a proposition for a future Rome to become the better version of a haven for Humanity.

Nolli’s instrument was his map, his drawing technique was his skill.

Giambattista Piranesi, in the slipstream of Nolli and in cooperation with him, produced his own ‘Pianta di Roma disegnata colla situazione di tutti i Monumenti antichi’9. “The big plan, the Ingenra, goes beyond the study and the polemic defence in favour of Roman architecture, towards a speculative archeology in which literary and archeological sources are linked with the inventio of the architect: a recreation of the past by means of imagination…” 10

“Graphically, Piranesi presents his plan as if it were part of a city map sculptured in marble - like a new Forma Urbis -, the monumental genuine Severian Marble Plan of
Rome measuring approximately 18 x 13 metres. Fragments of this plan had been re-discovered in the sixteenth century ... re-assembled by Giovanni Battista Nolli during his collaboration with Piranesi for the plan of the actual Rome (1748) ... Moreover, he [Piranesi] already had created new ‘fragments’ for the plan: a mixture of existing structures with hypothetical reconstructions.”

Daniel Libeskind wrote a very tempting essay about the status of the architectural drawing. “There is a historical tradition in architecture, whereby drawings (as well as other forms of communication) signify more than can be embodied in stabilized frameworks of objectifiable data. If we can go beyond the material carrier (sign) into the internal reality of a drawing, the reduction of representation to a formal system – seeming at first void and useless – begins to appear as an extension of reality... ”

“The architectural drawing is as much a prospective unfolding of future possibilities as it is a recovery of a particular history to whose intentions it testifies and whose limits it always challenges ... I am interested in the profound relation which exists between the intuition of geometric structure as it manifests itself in a pre-objective sphere of experience and the possibility of formalization which tries to overtake in the objective realm.”

The first two examples might be seen as hypothetical reconstructions, an amplified version of an archeologist’s method.

The third example describes the potential of the architectural drawing as a highly powerful medium achieving the status of a legitimate reality in its own right.

And what if we see ourselves as archeologists of an inverted kind, combining the first two examples with the third example, on the one hand investigating the hypothetical reconstructions of the Polis of a future yet to come by designing provocative propositions of the apparently impossible, and on the other hand transforming Daniel Libeskind’s ‘drawing’ into a ‘scale model’ and using it as a means to serve the purpose of the subject of a PhD?

And look at us then, being served by the scale model as an architectural medium of prediction and communication which achieves the status of a legitimate reality in its own right!

A SUPERMODEL OF A GODDESS
(‘THE LONDON TAPES 1’ AND ‘THE BRUSSELS TAPES’)
Two Investigative / Communicative Scale Models

This PhD project will require a powerful tool of investigation and representation.

So, it demands a lot of hands-on work that still needs to be done. It requires very ‘hands-on down-to-earth’ SETTINGS to operate in. We need to fertilize the ground in which we will cultivate the IMAGINATION. We will need something solid to base our hypothetical reconstruction of the future on.

One cannot have both SETTINGS and IMAGINATION in their own and independent freewheeling drift. Their dynamics must be tuned accurately one towards the other in order to accurately trace the momentum of their interdependency.

The urge to encourage imagination needs to be protected by the wisdom to keep the eye of ratio on the parameters of the settings.

If architecture wants to escape from an imminent Babylonic state of being – as a dangerous exile safely banned in the neutralized empire of harmless fantasy – , it needs to pass from fantasy into imagination on the way to its next and ultimate state of being: ultimately achieving the blessings of its materialized fulfilment.

The scale model, as a materialized instrument of prediction in architecture, can produce embodied KNOWLEDGE to achieve MEANING as a medicine against the nonsensical and as a guideline on the slippery paths toward a deeper KNOWING of the way we see ourselves within the world.

It is here that ‘The London Tapes 1’ and ‘The Brussels Tapes’ come onto the stage. They are the Supermodels of a Goddess called ‘Polis’.

What is the nature of those Supermodels, and how winding was the road along which their characters came into being?

Well, here the author wishes to reveal that he has partly been inspired by the way writers, film directors and painters bring us to a profound and legitimate belief in their ‘story’.

So in what follows next, out of a very brief description of the way those artists work, a parallel description is summed up, in order to shine a light on the birth of the Supermodels.

Subsequently, the genesis of the models is metaphorically described in a hypertext as if it were the meticulous setting of a theatre play, which in turn seems to be a crime scene investigation.

Between the lines of the hypertext, the reader is encouraged to find the ineffable truth of a process still too grim to be talked about...

A ‘TRUTH’ WE ARE SEDUCED INTO BY WRITERS, PAINTERS AND FILM DIRECTORS

In literature and film, multiple time frames can be mingled as an instrument to inform the reader and the viewer. Medieval painters collected appealing ‘views’ while ‘on the road’ in order to combine them by ‘free’ association in the pictorial compositions they made once they were back at home painting in their workshops, creating wonderful amplified worlds which inform us about deeper meanings in order to generate understanding.
THE BIRTH OF A SUPERMODEL AND THE METICULOUS SETTING OF A THEATRE PLAY

A. THE BIRTH

The Supermodels, as architectural representations, came into being through a comparable technique as the one applied by painters and writers in that the two scale models materially combine - on purpose! - distant geographic frameworks and far away time zones in order to inform and to emphasize the quintessential of the Polis in connection with a body of work of an architect, leaving out the irrelevant miles and less important minutes in between the inches and seconds that really matter to both the urban fabric and the architectural body of work.17

So, a designed, thus imaginary, and designable, thus real (!) urban fabric contracts the Polis to its essence by making it a denser version of itself.18

B. THE METICULOUS SETTING OF A THEATRE PLAY

The separate architectural designs of an architect's body of work can be seen as a series of characters in a theatre play. It was a sudden and inevitable urge of the author to arrange a well defined series of these characters in a line-up. Having to make a selection out of his own body of work as an architect, the author of this article must have felt like those painters bringing together in a single metaphoric 'petite histoire' those prominent figures of an imaginary medieval town, and holding them together with a 'squeezing awareness' of a not too peaceful 'non-coexistence' between them, and by doing so really throwing another light upon 'la grande histoire'.

In the painting, the looks in the eyes of the painted figures could explain a balance of power and 'war at first sight'. While one belonged to the guild of butchers, the other one appeared to be a vegetarian, and next to the vegetarian the painting introduced a woman who was known not to be a nice person at all. This woman, in turn, was accompanied by a small black dog that, without paying any attention to her, was fiercely attacking the paws of a big white horse passing by 'coincidentally' in the right corner of the painting….

The shape and position of the big white horse in the painting was placed there not only to show the fierce character of the woman's dog, which in turn was meant to illustrate the woman's despicable character and her bad taste. It was not even the woman who needed a dog, rather it was the painter who needed a vast white but living surface in his composition to reflect the light from the right side of the painting and to project it into the centre of the composition. Sometimes, in compositions, we simply need physical white objects to reflect the metaphysical light on the essence of a dark story.

And what about the architect himself, being at the 3 p.m. in his lifetime, looking 'the past inwards', over there over his shoulder, with the critical gaze of the sailor's eyes….

Well…?
This article describes the scale model as a research instrument within the PhD program.

2 These designs were selected very carefully out of a whole body of work, with their transition characteristics towards the public space and their poetic potential as the criteria of selection within the context of the PhD program.

3 Juliaan Lampens, PhD.arch, teacher and mentor of the author.

4 The author is very well aware that the first person singular ‘I/me’ is a sin – and even a crime – in the Kingdom of Science, but he is determined to continue in his errant ways. Of course, this is not an imaginary letter from the author as a literal child. Rather it is the child within his adult self. So in fact there is no difference between the author as reader of the article, the author as writer of the letter and the author of the article itself. This is the hypertextual ‘triple me’, which makes this article a non-distant, non-objective example of a non-scientific moment of weakness. If only it could be viewed by the reader (i.e. you) as opposed to the reader (i.e. me), as a successful step – however faltering and imperfect – in the direction of honesty and rigour, the author would be flattered.


6 The author spent last summer in ‘a’ London under surveillance, with 500,000 CCTV camera’s and a whole army of security agents watching him. Now, in November 2008, news articles and other media are reporting that Boris Johnson, London’s new mayor, has prohibited ‘One Nation under CCTV’, a work of art by graffiti artist Bankoy. In the meantime, Coca Cola has put up a billboard on Darlinghurst Road, Kings Cross, Sydney, Australia, spanning 41 metres, reaching a height of 13 metres and costing $5 million…

7 Giambattista Nolli: the Nolli Map, was commissioned by Pope Benedict XIV as the new and most accurate plan of Rome. It consisted of twelve engravings in copper. The plan spans 177 by 206 centimetres.

8 In this aspect, Nolli continues the approach of Buffalini’s map of 1551.


11 Ibidem, p.86 [translation by the author].


13 Ibidem, p.22.

14 "Unlike the critic and philosopher, the architect must embrace the contradictions between perceptions and logic, the slippage between architectural intention and realization, and the unpredictability of the future’s judgement upon the acting present… this book represents a humble attempt to articulate words and images with this generative intention in mind". (Steven Holl, Juhanu pallasmaa, Alberto Pérez-Gómez, (1994 and 2006): ‘Questions of Perception: Phenomenology of Architecture’, from the preface, William Stout Publishers, San Francisco.

15 “Imagination is related to the real. Fantasy belongs to the sphere of the unreal … Only when fantasy acts as a catalyst to the imagination is one able to create works of reality that are blessed with the new, the fresh vision, the never before tried: Fantasy is the catalyst of imagination, while imagination is the filter through which fantasy must pass in order to become an ingredient of reality” (Anthony C. Antoniades, 1992: ‘Poetics of Architecture: theory of Design’, p.11, Van Nostrand Reinhold, New York / London).

16 A comparable technique has been applied by Katja Grillner in her PhD thesis, in which she combines three characters in a dialogue, with herself coming from the 20th century and two English gentlemen from the 18th century who probably never met each other, but all three of them still having imaginary but profound conversations.


17 This goes both for the personal body of work of the author-architect himself as for the version of the urban fabric which has been the ‘densified’ version of an existing provincial town in Flanders to present the architectural designs in.

18 It is in this specific hands-on-setting - the mythical and metaphorical Polis - that the architectural and cultural invasion trespasses into the void urban enclaves to attack the FORMAL solid house of status and official culture and to infect it with the healing virus of INFORMAL fluids coming from the subcultures of the streets. But all of this course belongs to the vast area of investigation in the rising palace of the PhD, in which the Supermodels are intended to be the servant under the King’s command, the seducing instrument of research for more desired designs to come.

Participants ‘batch 2008’
Food Architecture & Urbanism

‘We live the way we eat; we eat the way we want to live.’ Can the understanding of FOOD help us to generate design tools in Architecture and Urbanism? What kind of design tools can we generate out of the world of FOOD?

“A NEW weapon in the battle against obesity was rolled out last month when the Los Angeles City Council decided to stop new fast food restaurants from opening in some of the city’s poorest neighborhoods.”


“The Los Angeles City Council unanimously approved (12-0 vote) today an Interim Control Ordinance (ICO) drafted in response to a motion, authored by Councilwoman Jan Perry and seconded by Councilman Bernard Parks, designed to address the imbalance in food options currently available in South Los Angeles. The ordinance proposes a 1-year period which prevents new fast food establishments from opening in the South Los Angeles, Southeast Los Angeles, West Adams, Baldwin Hills and Leimert Park community planning areas. This will allow time for City planners to study the economic and environmental effects of the over-proliferation of fast-food restaurants in these communities and develop permanent solutions.”

Jan C. Perry Ninth

Los Angeles is the first city in the US to officially impose a ban on fast food, and New York City is thinking of following suit. This is an important moment of change. The US is the country that created the modern fast FOOD culture that so many of the world’s developing countries are busy imitating in their urban development plans, and it is almost an action of self-denial for the US to start attempting to reverse this trend. What is going to be the impact of this reverse? What is going to happen when the drive-in meal gobbled down behind the steering wheel of your car is replaced by a walk to your local restaurant for a leisurely, enjoyable dinner with family or friends?
Will this be a ‘reverse course’, or will it in fact be a new step towards another FOOD culture?

Can the understanding of FOOD and the complex phenomenon of eating be the solution for designing a healthier living environment? EATING is a fundamental activity of everyday life and the core of many social activities that drive a society. FOOD very often reflects the way we live and the values of a particular place. Therefore FOOD can be seen as a primary transforming force capable of organizing the city and enhancing the urban experience.

Here is my own experience of how eating habits shape the built environment, and possibly vice versa. I have less than an hour lunch break in Rotterdam, where I simply join the ‘lunch table’ organized by the colleagues in the office. Or, I step out to have lunch in a temporary semi-outdoor market place where food, small office gadgets, clothing and DVDs are sold in Bangkok. And, very often, I find myself on the move during lunch to grab takeaway sandwiches in London. The one example that most contrasts with all the above is when I have a two-hour lunch break in Barcelona, where most of my local colleagues either sit in a small restaurant having a three-course meal with a glass of wine, or they go home for lunch and a little siesta, but I go to a local swimming pool to combine my lunch with sport. Comparing the morphology of these different cities, Rotterdam has obvious centres where all the high street brands from clothing to food are concentrated, Bangkok has an enormously complex fabric of informal sectors attaching all over the city, London is like villages within a city with multi-centres for different purposes, and Barcelona has several clusters of multi-functional neighborhoods (almost an accumulation of villages), each of which serves all the needs of everyday life within the neighborhood itself and in which the individual single-owner places of commerce and restaurants are still intact.

Looking at the urban situations in many emerging countries, modernization means moving from market places and local street corner food stalls to shopping malls, food courts and supermarkets. This careless formula has been blindly copied and pasted at thousands of highly varied locations around the globe as if there were no other alternative. But there are other alternatives. For example, what I see as the new phase in architecture and urban development in the Far East is a positive development. If we take a better look at what makes a place unique, then we can make this unique character the place’s strength and build in harmony with it. This type of project is already in the making in different places: take Shanghai’s Xientiandi district as an example. Nicknamed “the city’s living room”, it uses ‘FOOD’ activities as urban actives, converting an old style Chinese residential area into a successful wine-and-dine retail and entertainment complex.

In the globalizing world of today, all the major network cities around the world are looking more and more alike. From Frankfurt to Dubai to Bangkok, the same uniform pattern of airports, shopping high streets, housing and infrastructure are proliferating in and around the old city centres. Today urban planning is centred on topics such as mobility, density, economy and politics. There is less concern about the quality aspect of the basic needs of the individual. But is it not more sustainable if we bring “people” closer to the centre of the discussion?

FOOD Patterns

The core issue of the study will be to understand and turn FOOD into a useful tool for recognizing social patterns and their relation to architecture and urbanism. Throughout history, many cultures have in some ways used FOOD as a social instrument, a function which goes far beyond its physical meaning and necessity, though this use of FOOD as a social instrument has always been restricted to the small group of the elite. Today, however, for most of the industrialized nations, FOOD is no longer restricted to its pure physical meaning for the masses of people, as it now influences lifestyle, identity and social behaviors in all social classes.

The following quote can serve as an introduction to pave the way to an understanding of the research framework for this study of ‘FOOD patterns’,

“Mobility and Leisure combined to multiply the forms of culinary transformation. As bicycles and carts were replaced with scooters and cars, millions gained the freedom to zip into the city centre and meet friends at a pizzeria, or to take the family out into the country for Sunday lunch. The age of mass motorization profoundly changed the Italian culture of the table, introducing wholly new food experiences, such as driving to the seaside in August to eat spaghetti with clams, or stopping for a bite at an Autogrill – a motorway service station. During the miracle there was a rapid reduction in the number of people who grew what went into their meals, Instead Italians became infatuated with products from the food industries. Their infatuation has increased over the years. In fact, the miracle set in motion a panoply of changes that are still unfolding today. Less and less time is devoted to preparing food. Simultaneously, the meaning of eating a metamorphosis: no longer merely...
a biological necessity or even a collective ritual, it is a form of entertainment, like going to the cinema or watching a football match. Strange new habits, like snacking and dieting, are adopted. Special foods are created for novel sub-categories of consumer, from babies to body-builders. Day-to-day food responds to urgent bulletins from the frontiers of science, and to the convulsive dictates of fashion. The marriage between television and advertising has radically changed the meaning of food for millions. Humble goods like ham, pasta and oil are enveloped in the magical aura of capitalist merchandising. Consumers no longer eat food: they eat icons of desire, promises of love and success.”
John Dickie

FOOD patterns and their relation to architecture and urbanism can be studied in three different areas. First, it can be looked at from the FOOD supply perspective, meaning looking at the relationship between the growing and the buying of the products. Secondly, it can be looked at from the FOOD Preparation prospective, meaning looking at the urban dialog between the preparing (the food makers) and having it served (the consumer). And finally, it can be looked at from the Eating Habits perspective. This research project will cover these three areas, though the main focus will be on Eating Habits.

Eating Habits
Who are you? Where are you living? What do you eat? How do you eat? And how many times do you eat in a day? It will be an investigation of the eating habits and their relationship to the environment, both on the individual and on the collective level. Eating habits are not created by individual persons, but rather by external factors. These external factors can include the improvement of technology, the promotion of political ideas or trends in social values such as described in the John Dickie quote and the news report on the fast-food ban in Los Angeles. The question is: Is this the way we want to live? Or are there other ways that we may want to live?

Chotima Ag-Ukrikul

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3 Benjamin Wood, an American, was the principal architect of the Xintiandi project. See also the article by Paul Goldberger: Shanghai Surprise: The radical quaintness of the Xintiandi district. the New Yorker (New York: December 26, 2005) http://www.newyorker.com/archive/2005/12/26/051226csrk_skyline also visit http://www.xintiandi.com (accessed on 5 Sep 2008)
Abstract

Emerging technologies and digital media are having a profound impact on architectural practice: not only on the tools for designing and representing architecture, but also on the field in which architectural design takes place. The digital media are altering the way we perceive, inhabit, build and interact with space. Architecture, traditionally qualified as static, heavy and durable, seems to be having a hard time adapting to this rapidly changing digital medium and visual culture.

Architects can learn and expand the architectural toolbox by looking at other artistic disciplines that are dealing with these emerging technologies, especially those that add a time dimension such as performance and interaction, and that are termed – a bit problematically – the ‘new media arts’. This paper explores performative architecture. This is an approach to architecture that incorporates new media in the design process, within the content and context of the design itself. It is an approach that is fluid, that interactively negotiates with its users, and that consciously questions the tools we use to design and the role that we play as designers.

Furthermore I want to look at the impact of these developments on the teaching of digital media within the architectural curriculum, stressing the importance of experiment, bricolage, the notion of play and the ability to be surprised by the tools we use in dealing with this digital medium. I will investigate the possibility of setting up a workshop/elective/lab that enables students to experiment with new media in a proto-architectural context.

Research questions:

What place can architecture claim for itself in the current visual culture, which seems to be dominated by the rapidly evolving digital media? What role do digital media play in the present day practice of architecture? Does architecture need to become more responsive, reactive or interactive? What can we learn from other artistic and design disciplines that deal with performance and interaction? How can we teach students to take a critical stance in this ever expanding field of digital media? These are questions raised within a larger context of research interest, and as such they will not find a definitive answer in this paper, which should be read as an exploration of a field of research, as a statement of intention for rather than as the result of a research project.

Keywords:
architecture, digital, design, new media, performance, interaction, animation, education, studio, lab, workshop, augmented space, hybrid space, sensors, actuators, bricolage, d.i.y, circuit bending, scripting, prototype, generative, representation, transmedia.
Architecture and media

This research proposal is framed within a larger interest in the common ground between architecture and other artistic disciplines, and between architecture and other media. I use architecture in a very broad sense as man inhabiting, designing, building and reflecting on space – which is, after all, a human construct. In this sense architecture is itself both medium and message, both content and form of expression. I see architecture in the first place as a symbolic act of appropriating space, and only in the second place in terms of the pragmatic concerns for shelter. Other media – sculpture, painting, text – have been incorporated into architecture as a symbolic construct. Architecture uses other artistic disciplines to communicate its symbolic meaning. Obvious examples include the stained glass windows in Gothic churches, the frescos in Renaissance palazzo’s, etc. Digital media, projections and facade-screens seem to have a similar purpose within architecture today. Architecture evokes a lot of sensual qualities – sound, smell, touch – that escape the design tools we use in architecture and that are often neglected in the design process. Architects can learn from other artistic disciplines to develop a more sensitive design approach that incorporates these sensual qualities.

The process of designing architecture is a ‘mediated’ art. In order to build, architects are obliged to present their work through sketches, plans, models, schemes, etc. Architectural ideas are not put into practice directly but are represented in other media first. The connection between architectural meaning/concepts and their representation is not a one-to-one relationship: in the translation of ideas through different media, distortions and shifts in meaning occur. Furthermore, I assume that this relationship is not one-way: Architectural meaning is not something that simply arises as a pure idea, is drawn on paper and then finally built. Architectural ideas are rather constructed through an iterative cycle of representation (be it graphical, prototypical, textual) and interpretation.

Architectural representation is not simply a way of communicating architectural ideas to other participants in the building process. Rather, it is a fundamental element in the process of designing architectural concepts, from the very beginning onward. It forms a way of communicating with oneself. In this sense, the tools or media we use to design and the skills we develop as designers to represent and interpret architectural concepts in these media influence the design outcome.

Architecture as a symbolic construct and the tools we use to design are part of an architecture culture, the complex whole of practices and theories surrounding architecture. Looking back on the history of architecture, it is possible to discover dominant paradigms within the different cultures and how they influenced the relationship between the architectural media and the architectural construct. Different historical phases in architecture often had their own very specific tools and representation systems, such as linear perspective in the Renaissance and montage, assemblage and collage during the historic avant-garde.

The advent and proliferation of computers, often called ‘the digital revolution’, has affected architecture and architectural media drastically. One can question whether there is a dominant paradigm within architecture media and the use of tools at present. But even if there is no dominant paradigm, the digital revolution can be identified as an important element in shaping contemporary architecture and visual culture.

Architecture as an art form traditionally associated with the qualities of the static and the durable has had a particularly hard time in adapting to this new interactive, fluid, digital medium. Exploring the borders of architecture through trans-disciplinary, practice-based research seems to offer the possibility of examining the place of architecture within contemporary visual culture, and how it is being informed by the digital revolution. In what follows, I will look at the impact of the advent of digital technology on the tools we use as architects to design, on the content of our design, and on the context in which we design.

Tooling

Early digital tools mimicked and referred to their analogue predecessors – the desktop analogy of many operating systems, CAD tools copying the drawing board, pen and ruler, image editing drawing from photomontage and collage, sound editing mimicking tape slicing, etc.

The influence of this digital revolution is most noticeable at the level of the tools we use as architects, with nearly every architectural practice using some form of computer aided design. Digital tools are used in many phases of the design process, from surveying and measuring to the drafting of plans and the modeling and representing of architectural ideas in presentations and as-built files.

The phase of the conceptual or sketch design seems to be harder to digitize, notwithstanding the increased performance of computers and the advent of quick drafting tools such as SketchUp. It seems that the mediation through digital interfaces like the mouse and the screen lacks the directness and intuitiveness of hand drawing and sketching. Generalizing, we can say that common digital tools are either used in the preparatory work or relatively late in the design process –, and they do not have an immediate effect on the architectural concept itself.

The development of new hardware and the increase in computational power, largely driven by the game industry, is leading to new software that can render unprecedented, complex, fluid virtual forms on screen. In the 90s we saw the emergence of a series of interesting architectural practices initiated by Greg Lynn, Kas Oosterhuis and Lars Spuybroek, just to name a few, that used the computer in its own right as a design tool. These practices are particularly interesting for the development of their own tools and the critical reflection they make on the influences of these tools on the design process.

Parametric, generative CAD applications expand and alter the way computers are used in the design process. Instead of drawing/modeling design solutions, these applications model and parameterize architectural concepts and design decisions, and from this they generate a number of design solutions that fit constraints set by the designer. These programs allow for advanced tooling and shift the designer's
attention from the designing of specific forms to the designing of tools, from the designing of one solution to a problem, to the designing of a solution space and a tool to navigate it.

Recent developments seem to bridge the divide between the digital and the physical: digital photography, 3D scanning and photometry allow for a precise and detailed translation of physical objects into digital models; while CNC milling, 3D printing and laser cutting are capable not only of producing prototypes, but also physical objects that meet functional requirements. These improvements in the interface between analog and digital, between physical realities and virtual, make a strict distinction between analog and digital media seem outdated. They make it more useful to speak of hybrid media or post-digital media.

The use of the computer in manufacturing processes opened up the possibilities of ‘mass customization’, which frees architecture of the need for standard solutions and demands a critical rethinking of the process of building. Some authors see this as a return to pre-industrialized, pre-standardized patterns of production.

The use of computers as a design tool has allowed the integration of architecture with other media. The fact that computers treat the input of different kinds of media as numbers has led to a blurring of the boundaries between the different media and their resulting transformation.

Recently we have seen the emergence of a whole new set of design tools aimed specifically at developing rich media installations: processing, vvvv, OpenFrameworks, arduino and Pure Data, to name the ones I found most useful. While being quite different in scope and possible applications (see endnotes for a short description of each), they all share some common features: they provide an open ended framework in which one can develop one’s own tools. In principle they are programming tools, but they are specifically designed for artists. They provide easy access to all sorts of input and output devices, they work in real time, and they require a considerably shorter learning time than regular programming languages. Through “sketching” and “patching”, these tools allow a more intuitive approach to programming and they are often used for prototyping programming concepts.

Pure Data and vvvv use graphical programming interfaces (based on a dataflow model) by means of which users connect different nodes instead of writing code. This serves as a means of graphical feedback to the designer, and seems to be particularly appealing to visual artists, or artists familiar with modular synthesis.

Vvvv is being developed by Meso Digital Interiors, which has designed numerous spatial installations, most recently in collaboration with Ben Van Berkel and UN Studio. For the Architecture Beyond Building Exhibition at the Venice Biennale they developed The Changing Room, in which nine projectors project Youtube footage onto the smooth surface of the pavilion.

Processing and OpenFrameworks, which are based on Java and C++, give easy access to different media and enable one to write code with as little overhead as possible, thus opening up programming for artists, students and teachers. Processing has been used in the architecture curriculum, most notably at the ETH Zurich, where it is a required course at the bachelors level and part of a specialized master degree.

Processing is also used by architectural offices, mainly as a digital sketching board for trying out algorithms.

Adopting open source as a development strategy (with the exception of vvvv), these tools are rapidly gaining in number of users and in the results that can be achieved. By contrast with traditionally developed software, which relies on black box programming, these tools allow for a much more fundamental understanding of the digital medium itself.

Augmented / hybrid space

New technologies have added a completely new layer to the space we inhabit. Often very subtle, almost invisible and non-designed – or at least not taken into consideration in architectural design - network technologies, wireless internet, RFID, CCTV and surveillance are present in our physical environment, fundamentally altering the way we perceive and inhabit space. Over the last 20 years we have seen the dispersal of computing from the centralized mainframe to personal computing, and from personal computing to ‘ubiquitous’ or ‘pervasive’ computing, in which ever increasing amounts of devices are being equipped with ‘smart’ technology.

It seems that both the private and the public realm have been equally affected by these new emerging technologies. On the one hand, we see a privatization – or at least increasing control – of the public space, while on the other hand our private life is being made more public then ever (whether voluntarily or involuntarily) through weblogs, social networking sites, etc. Such dualities as private versus public seem to have lost their power to describe the spaces we inhabit today. This shift, combined
with other large scale developments such as globalization and the increasing mobility, have led to a wide variety of neologisms in our attempts to describe this space: space of flows, datascapes, hybrid space, non-place...
The media arts have been particularly successful in unmasking, mapping or revealing these hidden technologies, thus enabling us to take control of these technologies, or at least making us aware of their existence and promising the possibility for agency in an increasingly technologically controlled world. I see this layered space, incorporating both physical and digital realities, as the context for architectural design. From these new media arts, architects can learn how technologies can be used to visualize, map, alter and augment this layered space – how this technological layer can be incorporated into, or at least acknowledged in, architectural design.

**Learning from new media**

The term ‘new’ is obviously problematic. What makes a medium ‘new’, and when does it become old, or even obsolete, and what about new uses for old media? The term ‘new’ suggests a media landscape that is ever evolving. As a designer/artist operating within this field, one is faced with the never ending task of orientating oneself within this dynamically shifting landscape.

This task is becoming even more challenging for educators within this field, as it is not only a matter of orientating oneself, but also of critically assessing and mastering new tools sufficiently to be able to teach them to students. Every year new versions of popular software are being released with the accompanying manuals, which seem to increase in size with each successive version. Teaching these new tools by means of the traditional handbook approach would be painstakingly slow, with the handbook becoming obsolete before the course was even finished.

As artist/designers and teachers in digital media, we do research on a daily basis that is hard to place with an academic framework. This research draws from very diverse sources, such as magazines, books, lectures, blogs, internet forums and online tutorials. The new media arts, in particular, have embraced the internet as a place for exchanging information, for research and for the exhibition of works. Knowledge production seems to be happening in a whole set of new places both digitally and physically, ranging from the academic to the corporal to the hobbyist, and displaying a strong, fluid and easily reconfigurable network-like organization. The diversity of these networks and their flexibility seem to be increasing at the same pace at which new technologies are being developed and applied.11 Orientating oneself within this shifting network seems to require a certain attitude. This attitude is characterized by a project-based and experimental approach which seems to involve a dualism: on the one hand, new tools are best learned with a concrete project in mind, on the other hand, it is the abuse of tools and the possibility to play with them and to be surprised by the outcome of this play that brings new insights and pushes the design process forward. In my own experience, this seeming duality is best summarized as bricolage thinking.
Rather than teaching students specific tools, we need to help them to orientate themselves, we need to communicate to them an attitude which enables them to find answers themselves. Rather than giving them ready-made solutions to the problems, we need to teach them to ask the right questions. Rather than providing them with a generalized, one-size-fits-all education, we need to teach students to use the proper media for the design task at hand.

**MediaLAB**

The Mixed Media Department at the Sint-Lucas School of Architecture will be installing a MediaLAB in our institution in the near future. The MediaLAB will be a place where emerging technologies are made accessible to students, researchers and teachers.

In addition to providing the necessary tools (both hardware and software), it will be a place where knowledge is gathered and distributed. CAD/CAM, rapid prototyping, and generative and parametric modeling will all be an integral part of this lab, in addition to analogue modeling and drawing and the exploration of time-based and interactive media – and all possible hybrids in between.

Equally important as these tools are the rules of these media and the experimental attitude outlined above. The lab will be a place where mixed media teachers conduct research in accordance with the experimental attitude outlined above. It is a place where students will get a chance to explore, 'mess around with' and 'bricolage' with different media. It is this experimental attitude that should be central.

An illustration of one of the experiments I did by messing around with these techniques is the 'mesh_up' project that I presented at dorkbot in November 2008 and that I plan to further develop into a more rigorous research project. It deals with interweaving – or intermeshing – the digital and the physical, the auditive and the visual. Through relatively low-tech means, a double feedback loop is created: a microphone picks up sounds in a room, which are translated into a virtual space, and images from this space are then projected into the room; a webcam registers the images from the room, which are then translated into a virtual soundscape that is amplified in the room.

This results in a droning audiovisual feedback loop that is designed to reach a certain steady state through iterative cycles. Changes in sound and light and people entering and leaving the room interrupt this steady state and alter the virtual reflection of this space. It is a form of what can be called "interruption design" - instead of interaction design.

This project should be viewed as a proto-architectural experiment in which input and output devices, webcam projector, speaker and microphone are used as interfaces between digital and physical space. The aim in the first place is to look into how data from physical environments can be read and translated into digital models.

As stated in the introduction, this paper should be read as a statement of intention for a research project rather than as the result of it. By way of conclusion, I have shown that architecture is being influenced by emerging technologies in at least two domains: the tools we use to design and the context we design in. I want to expand this field of investigation and make these new technologies the focus of an experimental architectural practice, by using tools aimed at developing rich media installations.

Since my practice consists mainly of teaching mixed media courses, a practice-based research project will incorporate teaching. It should be set up as an experimental practice within the school that will incorporate workshops and electives and will be part of the MediaLAB.

My research project will take the form of a series of proto-architectural design experiments in which specific aspects of the relationship between architecture and new media will be examined. Proto-architecture has to be seen in this respect as both limiting the scope of the design project (i.e. focusing on a particular aspect of
architectural design) and as research into the prototypical (i.e. what lies at the basis of design decisions, and the role digital media play in this). Tooling – in the sense of designing tools to design with – is seen as a crucial part of this research. I am particularly interested in the interface between the physical and the digital, and I see the development of this interface through the use of sensors and actuators as a means of research, i.e. as a means of exploring the possibility of a more sensitive, performative, interactive architecture that actively engages with a time dimension, and of developing tools to achieve this as a research goal.

Processing
Processing is an open source programming language and environment for people who want to program images, animation and interactions. It is used by students, artists, designers, researchers and hobbyists for learning, prototyping and production. It was created to teach the fundamentals of computer programming within a visual context and to serve as a software sketchbook and professional production tool. Processing is an alternative to proprietary software tools in the same domain. Processing is free to download and is available for GNU/Linux, Mac OS X and Windows. Processing is an open project initiated by Ben Fry and Casey Reas. It evolved from ideas explored in the Aesthetics and Computation Group at the MIT Media Lab. www.processing.org

vvvv
vvvv is a toolkit for real time video synthesis. It is designed to facilitate the handling of large media environments with physical interfaces, real-time motion graphics, audio and video that can interact with many users simultaneously. vvvv uses a visual programming interface. Therefore it provides a graphical programming language for easy prototyping and development. vvvv is real time. Where many other languages have distinct modes for building and running programs, vvvv only has one mode – runtime. vvvv is free for non-commercial use. Commercial use requires a license. Get the latest version from the Download section. vvvv is being developed by the vvvv group. vvvv.org

Pure Data
Pd (Pure Data) is a real-time graphical programming environment for audio, video and graphical processing. It is the third major branch of the family of patcher programming languages known as Max (Max/MSP, JMax, etc.) originally developed by Miller Puckette and company at IRCAM. The core of Pd is written and maintained by Miller Puckette and includes the work of many developers, making the whole package very much a community effort. www.puredata.org

Arduino
Arduino is an open-source electronics prototyping platform based on flexible, easy-to-use hardware and software. It’s intended for artists, designers, hobbyists, and anyone interested in creating interactive objects or environments. Arduino can sense the environment by receiving input from a variety of sensors and can affect its surroundings by controlling lights, motors, and other actuators. The microcontroller on the board is programmed using the Arduino programming language (based on Wiring) and the Arduino development environment (based on Processing). Arduino projects can be stand-alone or they can communicate with software on running on a computer (e.g. Flash, Processing, MaxMSP).

openFrameworks
openFrameworks is a C++ library for creative coding.
www.openframeworks.cc

Sources and references
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3. Clint Eastwood in “The good, the bad and the ugly” (1966) dir. Sergio Leone.
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sparks of sense
running approximately from September ’07 to November ’08
Dear reflections,

I would like to propose you a recollection of preoccupations, images, sentences and ideas that appeared, during the past year, and then stayed for a while, or withdrawn, sometimes came back, or simply vanished.

Some tend to consistency and are documented, some are coincidental, other desperately try to make sense and to be relevant, while other are only ink precipitations on a sheet of paper of the uncountable triggers the world is pouring to our perceptive functions. Smells, thoughts, images, writings, models and quotes.

Is there a red line to be found through this selective accumulation and re-production? I don't know, but today, I believe architectural practice is exactly about about this: a search for hypothetical and desperate sparks of sense in the real world, despite its reluctance to deliver its even hypothetical consistency.

On one side there is a cow-boy (the Ugly), digging a tomb in the dry desert sand. On the other side, another cow-boy (the Good) is giving orders while threatening him with a gun. This manichean scene is symptomatic of a recurrent -not to say permanent- dualism between body and mind, materiality and spirituality. A quintessential representation of the unquestioned supremacy of Verb upon Matter.

But all I can feel, perceive and explore, is material in itself, in its causes or in its consequences. In the scene, the Verb without the Gun would be harmless.

Isn't it time to consider that consciousness and materiality need to be intrinsically bound in order to achieve full operationality and relevance?

“In this world there's two kinds of people, my friend. Those with loaded guns, and those who dig.”

3.

4.

5.
“À la maîtrise, l’enfant substitue le miracle.”

6.

We, as self conscious architects, are searching for a bicephal hybrid. On one side, we are seeking for some immaterial and immanent aspect in architecture. On the other side, we are aware that their doing is a mere fact, a concrete occurrence, a response to one program, one client, one site, and one materiality. Simultaneously absolute and contingent.

This is our salvation and our damnation: permanently new undiscovered fields to explore, and the impossibility to reach the horizon. Through all projects, we explore the material embodiments of specific hypotheses. But also, we seek the ultimate reduction -not elimination- of architectural arbitrariness, of which form is one aspect.

7.

8.
Designers are almost always charged with topics that are not problematic, not necessary, that have not failed, and that are not paradoxical in themselves. Their activity is unavoidable but essentially superfluous.

They stand in a schizophrenic situation in which what they will do is necessarily unnecessary because it certainly has already “been done” in some way, and if not, when done, it becomes equivalent to any other approach.

Simultaneously, designers can only exist while confronting this paradox, as resignation and acceptance only can lead to self-negation.

“Revolt is the only coherent philosophical position. It is the permanent confrontation of man with his own obscurity. It is the requirement of an impossible transparence.”
«Remettre en question notre volonté de vérité ;
Restituer au discours son caractère d'événement ;
Lever enfin la souveraineté du signifiant.»

The square is some absolute reduction of form. More than a form, it is a simple, logical rule: four equal sides and angles.

As a result, the square is a filling item, inducing isotropy, supporting all other qualities, but not imposing any. It is the Tile, or the Pixel.

It is an enabling principle.
Knowledge is an essentially cumulative process: addition, refinement and deepening all aim its stability. Ruptures occur as limits are reached or paradoxes found. Revolutions happen and new models are created, but still: the overall goal is a new stability and usability.

On the contrary, design is highly discontinuous: its rule is the rupture, its threat is stability. It is not additive, but rather destructive and competitive. The Master being overcome or betrayed by his disciple is not a model originating in science but in performative disciplines, in learning processes, and animal realm. Once something has been done and recognized, it must be disavowed, new ways have to be sought, repetition has to be avoided.

This might look like some “Romantic Heroism of the New”, as Tomas Ooms pointed. But isn’t all creative practice feeded by the quite innocent hope of relevance and sense?
« A square ‘neutral, shapeless’ canvas, five feet wide, five feet high, as high as a man, as wide as a man’s outstretched arms ‘not large, not small, sizeless’, trisected ‘no composition’, one horizontal form negating one vertical form ‘formless, no top, no bottom, directionless’, three ‘more or less’ dark ‘lightless’ no- contrasting ‘colourless’ colours, brushwork brushed out to remove brushwork, a matte, flat, freedhand painted surface ‘glossless, textureless, non-linear, no hard edge, no soft edge’ which does not reflect its surroundings — a pure, abstract, non-objective, timeless, spaceless, changeless relationless, disinterested painting — an object that is self-conscious ‘no unconsciousness’ ideal, transcendent, aware of no thing but art ‘absolutely no anti-art’.

The principle of uncertainty in quantum mechanics has put limits on the deterministic Newtonian mechanics. Strong sociopolitical ideologies giving way to short-term and local visions and actions. Self-determination facing the resurgence of superstition and paranormality. The arts undergoing a process of conceptual sprawl after a long linear history. Research is widening from theory to practice. From rationality to deconstruction, the western conception (and manipulation) of the world is in mutation.

Architecture is fundamentally a mental production (in here) given back to the material world (out there). As such, it seems fundamental to have a clear and coherent view on materiality itself. And then conceiving the architectural practice as a reduction to its basics, to its fundamentals (its contingencies ?). And finally exploring which potential lies in its materiality. A kind of Ockham’s razor for architecture?

How can architecture possibly overcomes the apparent balkanization of the contemporary architectural production? And inversely, does it inherently create some underlying coherence?
“I pass with relief from the tossing sea of Cause and Theory to the firm ground of Result and Fact” Winston Churchill

(before)
a research project

Études

Prologue

Andantino-Allegro

“How do I know what I think until I see what I say?”
E.M. Forster

Four days ago. The streets are covered in a pale and dirty orange monochrome. Houses most closed, others turned inside out when their faint ceiling lights throw a mute film in the dark mirrors of water. Where the wrecked pavement is turned in blackish pools and scrubs with dark drawings of shadow lines conceal nor expose. Wind thrusts itself under my headphones as Anna Vinnitskaya plays the second piano concerto from Prokofiev. Andantino-Allegro. The route from the station to my home takes about fifteen minutes by bike. As the piano introduces the second theme, it creates an odd simultaneity of city, movement and kindliness. Secluded and present, motion, wind and moments of clear understanding. Of self. Of memory, also. And consciousness.

There is an upright piano in the far end of the room. You look up and the dim light leaves itself on the softness of your skin. The light switches to a brighter bleu and the changing image on the screen dyes the walls in a more distant tone.
The MYSTICAL summons up the MECHANICAL.
(1) "[...] he must use matter as a support if he wants to get away from matter."
- "What happens when we shift our perspective from that of an actual creature to that of a virtual creature as such? Everything accelerates, becomes more intense, more ethereal [...] We begin to participate directly in the production or making of things, rather than in their representation or interpretation. We start to approach the limits of infinite speed, the speed of a thought that immediately creates what it thinks."

The EMPIRICAL THINKER
(2) "It took a while to discover that we do effectively think, but that we more readily narrate backward in order to give ourselves the illusion of understanding, and give cover to our past actions."
- "Predictors may be good at predicting the ordinary, but not the irregular, and this is where they ultimately fail."
- "The essence of research is in the unknown unknowns."

DUALISM
(3) "In philosophy of science, dualism often refers to the dichotomy between the "subject" (the observer) and the "object" (the observed) [...] In part, this has something to do with potentially complicated interactions between the subject and the object" Wikipedia
- Dualism as in Mind/Body, Consciousness/Matter, Research/Design

NON-ergodic
(4) "Biospheres [...] become as diverse as possible, literally expanding the diversity of what can happen next."
- "[...] non-equilibrium flow into a persistent adjacent possible."

ONCE and for ALL
(6) "The very idea that there can be a set of true sentences which give us the facts once and for all, an idea presupposing a closed and finished world, gives way to an open world full of divergent processes yielding novel and unexpected entities, the kind of world that would not sit still long enough for us to take a snapshot of it and present it as the final truth."
- "Experimentalists progressively discern what is relevant and what is not."

ERROR
(7) "When we attempt to trap chaos and connect it to our preconceptions, ORDER! Becomes an enormous effort. We try to eliminate fault or ERROR. We try hard but the effort turns to dullness and the heavy FORMAL"
- "the HORROR, the HORROR"
Designing is constructing a reasoning.
You expect it to be rational and real but it is also irrational and imaginary.
Are you willing to accept this?

During one of the RT sessions an axis was drawn to position the Knowledge production in Architectural Practice.

On the X-axis there was Scientific Research at one end and Creative Practice at the other. On the Y-axis you would find Disciplinary and Trans-disciplinarily.

I wondered whether there exists an other axis with different extremes in the continuum of which I could delineate practice based research...

At a certain moment I put the concepts of the Rational and the Irrational on one axis and the Real and the Imaginary on the other.
Etude n°7

\[(\sum R^n + \sum E^n) + \sqrt{-1} (\sum F^n \pm iF^n) = \text{ARt}\]

\[R = (\sum R^n + \sum E^n) = \text{Rationality}\]

\[E = (\sum E^n + \sum R^n) = \text{Irrationality (emotion)}\]

\[F = \text{Real (Facts)}\]

\[(F^n \pm iF^n) = \text{Imaginary}\]

If \(\text{ARt} = \infty\) then \(\text{Art} \neq \text{Research}\)

If \(\text{ARt} = 1 \pm 1 (*)\) then \(\text{Art} = \text{Research}\)

(*) or any other value \(\neq \infty\)

Etude n°21

Open-endedness, a sense of self and the impossibility of conclusiveness in research by design

In design there does not exist a general, universal and final conclusive statement.

Like poetry and literature, it has a limitless amount of freedom and dwells on disharmony and dissonance. Practice based research has an aspect of self-reference since the Practice is both the subject (of research) and the organism. (method).
Immigrant dans mon âme, propre
Je cherche
Recherche
Une place vide
Plein d’émotion
Je suis le trajet du temps
Il n’y existe que ce qui est en toi

Etude n°12

Etude n°13

"Amateurs look for inspiration, the rest of us just get up and go to work"
Chuck Close in Everyman, Philip Roth

Reflection is what I am, designing is what I do.

The trees are moving, slowly, gentle and with moderation. Your fingers are touching the pieces one by one like on the keyboard of the piano, black, white, white, black, white,.....
Sometimes you wait, like you hesitate, just a little longer than with the previous. I love to look at the dancing movement of your hands when you go through the pieces. They seem to understand before your eyes do. And at that moment I realize it is this tangible and caring expressing that impels me to make these études.

My World is Fiction
I wash my hands and face. The softness of the water always surprises me. It is as if I’m never really touching it but still feel it as real. I shake both my hands and the sound the drops make when they collide with the washbasin is barely noticeable. In each of these drops the whole room is reflected. I know this, but they fall too fast to witness.

I lift my head and look up into the mirror.

A body, almost of knowledge
Creates
A knowing body.

My body, almost knowing,
Creates
A body
Of knowledge

To be continued:
http://www.tomasooms.wordpress.com

Tomas Ooms
Utopias explored

To bring architecture criticism and theory to the lay public through a new medium. This ‘making of’ is founded on an analysis of the influence and underlying thematic meanings of architecture in comics, architecture photography, film and (youth) literature.

Introduction

Throughout my long-term experience as a specialist journalist, the problem of simple communication of architecture to the lay public always intrigued me because it seemed ‘unsolvable’. Writing for youth magazines, newspaper subscribers, the voracious readers of lifestyle magazines,… None of these gave the same satisfaction as transferring a message through the specialist literature.

This urge to ‘sensibilize’ touches on the mission statement of the Vlaams Architectuurfonds (Flemish Architecture Institute). Its Architecture Day for the lay public is a positive step in the right direction. Another initiative is the teaching material compiled by the VAI for high school students, together with the professional counseling it provides for teachers. Katrien Vandermarliere, Director of the VAI, describes her team’s mission thus: “The activity of thinking and talking about architecture is barely present in the lives of children and young people, even though it is a discipline they come into contact with every day. It is important that young people become aware of the meaningfulness of architecture so they can form an opinion about the built environment. Not only about their home, but also about their street, neighborhood and city. The youth of today are the clients and policy makers of tomorrow.” This teaching material is not obligatory for the schools, however. On the other hand, it must be said that young students often find that which is obligatory to be ‘uninteresting’.

Question

There should be a way by which not only young people, but also adults, can be educated about architecture implicitly and passively, so they can carry the knowledge and may experience the education as a joyful adventure.

A few interesting examples:

a. “The architecture drawing relates to comics as brown bread to a good glass of wine: both are equally nourishing, but the latter gives more pleasure and spiritual enlargement.” [Willem Jan Neutelings in ‘The secret of the comic’].

The comics of Schuiten & Peeters are so much more than beautiful drawings. They are interpretations of architecture, mostly catalogued by theme, that are brought together in a fictitious world. In a joyful and relaxing way, the transmission of knowledge about monumentality, the search for dominating heights and visionary infinity, and the analogue city of Aldo Rossi are taught. They are warnings against gesammtkunst, fascism, architecture as propaganda, ‘Bruxellisation’, etc.… They embody an exquisite
communication method which Schuiten & Peeters enlarge with movies ("Le Dossier B"), exhibitions and architecture (Hallepoort in Brussels and the underground station Art-Métier in Paris).

Piranesi has also already described how drawings reinforce theory.

b. The astonishing influence of architecture photography is used to sell architecture, to make it common history and to convey a certain way of life, a certain way of thinking of life.

The most exemplary examples are the dramatic photos made by Julius Shulman of Pierre Koenig's Case Study Houses, which made the Entenza program a manifest for the "All American Family". Gravitation defying architecture with relaxed 'ladies' in cocktail dresses. Chastity. Bodily urbanism. Tilted above Los Angeles, as the 'great big front yard'. How traditional and at the same time avant-garde the Case Study House Program was, is visible in the social aspect of the photography: the position of the woman (hangin' around, with distance from the man,...) This photography reveals the tension between the revolutionary program and the All American Family.

A second example is how architecture photography made the Barcelona Pavilion by Ludwig Mies van der Rohe famous and notorious after its demolition. The image of this architecture is burned onto the viewer's retina. Unfortunately, photography can sometimes 'burn' the wrong images. For example, Bruno Taut's Glass Pavilion lives in the collective memory as a black and white volume (there exists no colour photo), so it is remembered as a silent icon of architecture, while in fact it was splashing with colour, especially with the sunlight falling in.

Finally, I could also investigate why it is that so many architects swear to their 'own' photographer, like Le Corbusier to Lucien Hervé, Rietveld to Eva Besnyö, ....

c. The influence of architecture on film is thoroughly researched in Steven Jacob's most recent book, 'The Wrong House. The Architecture of Alfred Hitchcock', but the influence of the movie on architecture is practically unknown. Zorro, for example, started a hacienda-like style trend in the architecture of Los Angeles. The work of Steven Jacobs is limited to Hitchcock, but this approach can be enlarged to deal with movies such as Science Fiction, The Fountainhead, Lagos, L'inhumaine, Aeon Flux, Lucky Number Slevin, ....

d. In the literature the living environment of the characters is usually broadly described, including a description of the house itself, the street and the city encompassing it as a meticulously constructed scene in which the story can take place. In youth literature this is even more striking. Among the more intriguing examples are 'Een toren met boeken' ('A Tower with Books') about the "sad tower" designed by Henry Van de Velde and, of course, 'Stad' ('City'), for which Pieter Gaudesaboos did the graphic design.

Authors' observations have had an enormous influence on our image of cities and buildings as spiritual and physical constructions and have penetrated into the sociological literature, which in turn has influenced the architectural writing and thinking. Not only do explicit works such as 'De Goede Stad' by Geert Mak and the above mentioned youth literature defy the architectural imagination, but also the chimera of utopian spaces such as 'The House of Leaves' by Mark Z. Danielewski and unreal cities in Peter Verhelst's 'Zwerm' and 'Tongkat'.

Why is it that the lay public is not aware of the power of the architectural message that these media bring?
Research question

Implicit Knowledge

Is it possible to design – next to the implicit and passive ways described above – a new and more explicit medium to educate not only young people, but also adults, about architecture, so they can carry the knowledge and, above all, may experience the education as a joyful adventure?

Abstract

The seemingly random phenomena in the different media mentioned in the chapter entitled 'Question' support architecture, but also have striking sociologically tinted consequences. It is important to analyse the influences of the four above described media on the lay public thematically before transferring them to a practical application.

A. Mass Media Analysis

Apart from Jacob's excursion into the architecture of Hitchcock's films, the media mentioned above are unknown territory, especially concerning the mutual influence or cross-fertilisation that takes place between architecture and the different media. There is for example a broad thesis on architecture in the comics of Schuiten & Peeters, but no research about the comics in architecture, the comics as an extra urban tissue (see the blind walls painted with comics in Brussels) or the comics as architecture critic. A similar open view is applicable to all the media under consideration.

The research proposal will present horizontal, thematic or nearly metaphysical cutouts about these possibly still expandable quantity of representation techniques which lean towards an imaginary architecture ('faction' as a mix between 'facts' and 'fiction'). Once the importance of these thematic, mutually influencing and sociologically imbedded phenomena (like high rise or spatial approach) is sufficiently shown, it is important to aim for a practice-based model.

B. Hybrid Medium

"Everyone designs who devises courses of action aimed at changing existing situations into preferred ones." (Simon, 1991)

"Design is the ability to imagine." (Nelson, 2002)

"Design is the human power of conceiving, planning and making products that serve human beings in the accomplishment of any individual or collective purpose." (Buchanan, 2001)

The goal of the research is not only to write an analytical doctoral thesis, but also to design and develop a hybrid medium in which (probably) comics, photography and literature are used to bring a message based on architecture theory to the lay public thematically before transferring them to a practical application.

References (or draft of the Status Questionis)


• Research Training Sessions 2008.


• Research Training Sessions 2008.


• Research Training Sessions 2008.


Dominique Pieters
PROCESS-WORK

The momentary experience of space
a case study part I

ARCHITECT JANE WILLUMSGAARD
EXHIBITION AT THE AARHUS SCHOOL OF ARCHITECTURE
14TH OF NOV. – 12TH OF DEC. 2008

PROCESS-WORK The momentary experience of space, is at the same time part of a process and a finished piece of work on its own.

The exhibition is part of the research project “The momentary experience of space” and documents in a moment of time the project’s ongoing investigation of method and media striving to grasp the experience of space in the relation between time and space.

The work takes its starting point in the baroque spaces of Rome. The exhibition consist of a series of translations of the experience of space - from the fleeting polaroid to large scale paintings.

GRASPING-SPACE-MAKING

The work frames and explores 6 themes in the spacial experience:
1# deep chambers of light 2# continuity of massiveness 3# pulse of the perspective 4# light passages through needle holes 5# overlayering of space 6# dynamic movement through space

The exhibition works with 3 positions of the body:
- walking through – being in between – looking up.

Part II:
The work is more than representations- it is tools for handling space. Part II of the project will investigate the momentary experience of space by translating the work and themes from part I into 3D works.
RTS - reflection through the process of making

My initial project and contribution in the RTS discussion of ways of conducting a research by design is in its form a case study. It is on-going and open ended—questioning in the interrelated process of making, reflection and communication—like research. It is a way of knowledge production. My starting point is in the making—Pieces of visual work which are to be communicated and experienced in an exhibition.

The challenge for me in the RTS has been to get into “the language of research”, not for explaining my own project, but as a new language of questioning, creating, exploring meaning in its core— in this way bringing meaning to the ineffable.
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