'ARCHITECTURAL GAITS' - ARCHITECTURES AS TECHNOLOGIES AND TECHNIQUES

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Attempts to describe and define 'the role of the architect' or the notion of architecture 'itself', often inherit a displacement between the interests in processes and the interests in interpretations of, or preceptions for either the results as 'good quality' or for the practise as 'good conduct'. They tend to produce rigid models of the design-process, sociologically reducing explanations or mere ethical judgements. (Lawson, Cuff, Lundequist, Effekt:42) With this blurred and blurring difference as a point of departure, the interest in the competencies and strategies performed in the processes gets difficult conditions. The quests for the essences of either 'Architecture' or 'The Architect' will inevitable show, that both architects and architectures are multiple and heterogeneous, and that the processes that stabilize them are messy an unpredictable.

The attempt in this paper is to offer a suggestion for analytical practices that focus on the discursive manifold of *'strategies, manoeuvres, tactics and technologies'* performed to produce, or *obtain* spaces and buildings with special or cultural relevant qualities. (Foucault:41) By acknowledging the discursive differences between practises, it becomes possible to ask questions like: in which ways do architects imagine, see and define distant objects that are meant to become buildings, and in which ways are the processes open for intervention? How do the building-to-become gets knowable, real? Are digital and parametric generations offering more designpossibilities or better participation than their analogue competitors?



Fig. 1 Herzog 2003 and Uhrsprung 2002

INTRODUCTION

On the basis of three examples of analysis of architectural production, the paper attempts to point out different strategies and how they are carried out. They consist of different techniques for establishing design-possibilities and performing singularity in assemblies that are heterogeneous, both socially and materially.

The first step is to consider models and other 'architectural propositions', both digital and analogue, as participants in the negotiations and conflicts that takes place and to investigate the processes as dialogues with actual materials, spatial figures, proportions, dispositions and shapes – and their virtual properties. 'A reflexive conversation with the materials of the situation' or a set of relations between things and humans, rather than merely a question of inter-subjective agreement and participation. (Schön, Yaneva) The specificity of the competencies, or 'architectural gaits', walking around in these processes are dependent on relations between the architects and the different materializations of the architecture in-themaking, including both kinds as actors in the performing network.

THREE EXAMPLES

First example is the 'scaling-manoeuvres' in the process for an exhibition-building for Prada, Tokyo by the Swiss architects Herzog & de Meuron from 2003. (Fig. 1) The initial models for the project are in a small scale, rough approximations of something distant and unknown. They are made on the basis of a few informations – or parameters - of the site and the overall programme. One might say, that it is 'lesser-known' or abstract, but at the same time both comprehensive and open-ended.

By negotiation in the team of architects around the small models it is decided which investigations that ought to be made, and what kinds of models should be build. The models in a larger scale will investigate different parts of the building, in this case especially the façade. In this way they become 'more-known', concrete and detailed e.g. according to construction, light, openings, manufacturing of the parts etc. Series of 'scaling up and down' forms uneven and unpredictable oscillations between 'lesserknown' and 'more-known'. In these intense transitions the building emerges. One might speak of 'partial cognitions between lesser-known and more-known' as Yaneva:873 suggests.

The shift in appearance opens up for equally irregular and volatile feedback loops with the participating architects. Change in material is another trick of the trade that enables the models to participate in the social cognition of the team. But it is not the increasing precision or 'more-known-ness' alone that enables the realisation. The cognitions made possible through the changes of scale and materials in models can be shared and distributed as kinds of 'future-generating devices' or technology in the network. Hutchins:176 describes the notion of 'social cognition':

All divisions of labor, whether the labor is physical or cognitive in nature, require distributed cognition in order to coordinate the activities of the participants. Even a simple system of two men driving a spike with hammers requires some cognition on the part of each to coordinate his own activities with those of the other. Thus, it seems important to come to an understanding of the ways in which the cognitive properties of groups may differ from those of individuals.

The models are so to say stabilizing the knowledge of the group on the anticipated project or the 'final' building, and they are eventually also stabilizing the anticipations with 'users' - however contested this notion is. (see e.g. Lund 2006) It is used here in a quite extended version as a term for participating actors representing different interests like programme, geographical context, cultural memory and economy.

These architectonic experiments are tedious and timeconsuming to set up. Each model takes time to build. They often also require drawings to be carried out to enable the team to estimate which models are relevant. It is not possible from the outset to say what kind of knowledge that is required to build it – or what kind of knowledge it will produce. It might even turn out not to contribute to the knowledge in the team at all, e.g. by not being able to generate responds to the different 'users'. The making of these decisions perform the ability, or the willingness (or, in another *sprachspiel:* the courage) to risk the loss of time and energy, that an experiment implies. The team has to handle these risks as inevitable parts of the process.

The second example is almost classic in architectural history and theory: The First Unitarian Church in Rochester by Louis I. Kahn from the late sixties. The project has often been seen as a reaction to the 'super-rational' schemes of the 'first' modern movement with the credo: 'Need + Economy = Architecture', and in this way exposed a shift in modernism towards a more humanistic and reflexive approach to the architectural programme. (Summerson, Brownlee:9, Albertsen)





Kahn initially signified the project by a 'form-drawing', (Fig. 2) and introduced the little diagram to the building committee as 'realization of the programme', while relating it to his interpretation of the programme. He called it 'Form' and 'Essence' and stated that: (Kahn 1959)

'Form is not design, not a shape, not a dimension. It is not a material thing'

Kahn was, through his Beaux-Arts-training influenced by Aristotelian or Platonic metaphysics. It is obvious, that the committee was heavily interpellated by Kahn and the 'aura' established around the drawing through the story he told about how their church should be surrounded by their school. But they had done their homework well, and kept criticising the proposals that Kahn came up with. Through the numerous quite radical revisions of the first scheme, (Fig. 4 shows the first and the final version) the little iconic drawing re-established states of 'lesserknown' and comprehensive information of the project each time the committee had to reject the different



Fig. 3 Feldman





Fig. 4 Ronner

proposals before agreeing with Kahn. (Brownlee, Dogan) The little drawing – '*I am a drawing, not a design*' – kept emanating new possibilities for actualizations precisely because of its virtual qualities. Thus 'The idea' *works*. It is, to speak with Deleuze, not the singular truth about how to realize the possibilities of the programme, or the problems, but a device for activating the virtual properties of

Fig. 6 Brownlee



Fig. 5 Twombly

The problems posed at this time and in this space. For instance 'the idea' established a quite volatile relation between Kahn and the Committee, and kept contributing to its maintenance. In this way it stabilised the anticipating network through the long and quite difficult process.

With Deleuze himself we can say that: (Deleuze 1968:)



Ideas contain all the varieties of differential relations and all the distributions of singular points coexisting in diverse orders "perplicated" in one another. When the virtual content of an Idea is actualised, the varieties of relation are incarnated in distinct species while the singular points which correspond to the values of one variety are incarnated in the distinct parts characteristic of this or that species.

In the work with the façades of the final scheme, provisional, formative rules - or parameters - for composing the brick façade made new possibilities emerge. By establishing the facades as expanded, massive zones in which to cut out stereometric, like the ancient ruins that fascinated Kahn throughout his life – he talked at several occasions of 'wrapping the building in ruins' - it became possible to fulfil a wish for a solution of the sun-heating as an integrated part of the walls instead of add-ons. (Fig. 5 & 6) At the same time an option to establish sittingalcoves for the students of the school surrounding the church-room emerged and became accepted by the committee. (Kahn 1961:9) tinuous feedback loop within the context of this ongoing investigation. This working method allows us to shape and tune the formations in accordance with our concepts through a process of actualisation. Knowledge and sensibility are produced at all developmental stages within the project, the effects of which are organisational, programmatic, spatial and material. One possibility out of many is actualised. Through interaction with the environment our creations transform cultural production. This is an ongoing temporal process of cultural proliferation which self-perpetuates.

No doubt the story told about the processes is in deep correspondence to the architectural performance of the projects. But regardless of the intriguing story and the promising rhetorics, it seems appropriate to remark here that the description adapts quite well to both the example of the 'scaling-technique' of the Herzog & de Meuronprocess and the 'idea-technique' of the Louis Kahnprocess. Except from their incontestable analogue character, these techniques also adapt to descriptions of the different ways they: (Rahim 2002)



Fig. 7 Rahim 2006

The third example is a project for a residence for a Fashion Designer by Ali Rahim from 2002. (Fig. 7, 8 & 9)

It is carried out by establishing sets of parameters within the strong software-tool 'Maya', originally developed for 3D-movie-effects. Qualities of the site such as wells and springs were taken into account. The different parameters were programmed, so that they executed feedback-loops when manipulated and thus generated unforeseen 'intensities and formations': (Fig. 7) (Rahim 2002)

This process of actualisation allows us to produce temporal organisations through an iterative process that is conditioned by our ideas and concepts. There is a con...emphasizes a dynamic and interrelational approach to design that is grounded in digital techniques. Techniques enable architects to respond to new and emerging cultural contexts, and to devise methods of thinking and making, that responds to our digital milieu. These techniques are formational not formal. They bring together innovations from multiple disciplines to generate catalytic formations capable of affecting and responding dynamically to users and environments. By incorporating feedback at every stage in the design process, architects can create works that fulfils architecture's potential to be a catalyst for cultural change.





The 'space of possibilities' that are produced in the digitalized and parametric networks is no less open to negotiations or produces less design-opportunities than their analogue counterparts. But the rhetoric that ascribes the Deleuzian thoughts of becomings and knowledge especially to the emergencies made possible by digitally performed manipulations, and certain architectural discourses connected to this particular kind of practises or 'architectural gaits' is naïve, and it is limiting both architectural and philosophical thinking.

All the three examples here enacts processes that are primarily *formal*. Despite the fact, that the architectural discourses they connect themselves to are quite easily recognized, none of them are *formalistic*. They are – even though none of them are biological either - open-ended processes of becomings.

Of course there are obvious catalytic forces in generating various and unexpected formations, made possible with contemporary software-applications by juxtaposing different parameters and establishing feed-back-loops.

But the questions asked here were double. Both how techniques enables multiplicities of design-possibilities, or how they generate 'resonating fields of wild, directed formations' as Kwinter has put the specific ability of the designer. And at the same time how these 'fields' are made open for the negations of, and decisions on which of the possibilities generated that should be actualized in the buildings-in-becoming. We can also speak of how the emerging building is distributed, or how it is *made public*. (Latour 2006)



Fig. 9 Rahim 2006

Science-technology-studies (STS) and Actor-networktheory (ANT) has over the past 20 years followed scientists, engineers and physicians closely in and out of their workplaces. These fields have a strong interest in the social cognition of things and technologies, and in seeing things and technologies as actors, active in their own processes of becoming. (e.g. Hutchins, Turnbull, Latour 2005:72). Special for the fields are close, often ethnographically inspired studies of how science and knowledge *and* scientists are co-produced and distributed, inextricable entangled in technologies and techniques. (Latour 1987, Pickering,)

Law 2002 describes the (many) design process(es) of a cold-war aircraft ('Decentering the object'), and Mol examines the body ('The body multiple') in a similar way through the different practices of atherosclerosis. They are examples of studies in the different ways practices 'do' their objects in very dissimilar and heterogeneous ways. The practises *enact* strategies and manoeuvres of different kinds that allow the assemblies to perform unity and singularity and simultaneously multiplicity.

But architects and architectures have not yet with the same rigour been followed as the practises move from the model shop to the panel presentation for the client, and eventually the construction site. (Though recent attempts are made in e.g. Yaneva, and also some articles in Latour (ed) 2006).

CONCLUSION

The paper proposes a shift in analytic practise, though it does not take all the steps towards it itself. From kinds of thinking in interpreting representations and revealing truths to kinds of thinking that pursues how *propositions* and relations are established, coordinated and maintained, as 'future-generating devices in networks of anticipation' (Jensen, Hornskov)

The paper tries to investigate the kinds of tricks, techniques and grips that establishes and maintains relations between heterogeneities during the process. The competencies that are performed, or 'walking around' in processes of architecture are performing singularity through partial accomplishments and fragile assemblies of and oscillations between 'knowing-more' and 'knowing-less', trough the manipulation of parameters in a software programme or through 'real' models.

So the questions posed initially can now be posed as a question of the relation between actuality and virtuality in the different processes in the Deleuzian sense: (DeLanda)

The distinction between the possible and the real assumes a set of predefined forms (or essences) which acquire physical reality as material forms that resemble them. From the morphogenetic point of view, realizing a possibility does not add anything to a predefined form, except reality. The distinction between the virtual and the actual, on the other hand, does not involve resemblance of any kind [...] and far from constituting the essential identity of a form, intensive processes subvert identity, because now forms as different as spheres and cubes emerge from the same topological point. As Deleuze writes, 'Actualization breaks with resemblance as a process no less than it does with identity as a principle. In this sense, actualization or differentiation is always a genuine creation.'

Do the digitally sustained generative processes produce 'more virtuality'? If his is the case, do they in a better way facilitate participation and thereby relations to programme, memory, context and environments as Rahim 2006:3 states, than the analogue process of scaling models and drawings up and down? The argument posed here goes like this: The constantly fluctuating and undissolveable relation between actualisation and emerging virtualities is inherited in all processes of be-comings. Even processes or things that looks very 'hylomorfic' in the Aristotelian understanding, like e.g. 'an Idea' that is 'given shape', shows up to be actually quite relational. Their history can be thought without 'origins' and without 'grounds' (Jensen:246). And this goes even for processes that historically are rendered very stable and platonic, as the story about Louis Kahn and the 'form-drawing'. The specificity of the competencies performed can be described not as abilities within a single creator-subject to make use of certain technologies, but as the specific, and different ways *relations* are established and maintained between the actuality and virtuality of the futuregenerating devices and the network of anticipation. 'The virtuality of the Idea has nothing to do with posiibilities' says Deleuze 1968:240.

The Latour/Deleuzian point - here formulated in respect to Albertsen – will consequently be, that the technologies or techniques involved in architectural production can not be excluded from the network, since the architectureto-become simply is the whole network with all its relations.

What qualifies the outcome as *art* is a close related question, to be examined on a later occasion.

REFERENCES:

Albertsen, Niels, 2002, 'Arkitekturværkets netværk – tre samfundsteoretiske perspektiver', In: *Tidskrift for Nordisk Arkitekturforskning* Vol. 15/3, pp. 7-22.

Basar, S. and Miessen, M. 2006, 'Did someone say participate', MIT Press, Cambridge, Massachusetts

Brownlee, David B & David G. De Long, 1997, 'Kahn -In the Realm of Architecture', Thames & Hudson Ltd, London.

Cuff, Dana, 1991, 'Architecture: the story of practice'. MIT

Deleuze, Gilles, 1968: 'Différence et Répétition'. Presses Universitaire de France, Paris. Eng. 1994: 'Difference and repetition'. The Athlone Press, London

Dogan, F., and Zimring, C. M., 2002, 'Interaction of Programming and Design: The First Unitarian Congregation of Rochester and Louis I. Kahn', *Journal of Architectural Education*, Vol 56/1, pp. 47-56

Effekt, 2005, 'The Law of Generosity' in: 'Samtidsarkitekten – the compatible X', Multivers, Copenhagen, pp. 42-45

Feldman, Eugene et. al. 1962, 'The notebooks and drawings og Louis I. Kahn', The Falcon Press, Philadelphia

Foucault, M. 1975, 'Overvågning og straf', Det lille forlag, København 2002. pp. 41ff. Org. 'Surveiller et punir', 1975, Galimard, Paris

Herzog, J. and De Meuron, P., 2003, 'Prada Tokyo Shop and Offices', In: *El Croquis* 109/110 'The nature of artifice', El Croquis Editorial, Madrid. pp. 286-299

Hornskov, Søren B., 2006, 'The story of a brick. Networks of anticipation of the Copenhagen Playhouse', Paper for *EGOS conference 2006*, second draft.

Hutchins, E., 1995, 'Cognition in the wild', MIT

Jensen, Casper Bruun, 2005, 'An Experiment in Performative History: Electronic Patient Records as a Future-Generating Device', *Social Studies of Science*, Vol 35/2 pp. 241-267

Kahn, Louis I., 1959, 'New Frontiers in Architecture at the CIAM/Otterloo conference 1959', in: Alessandra Latour (ed), 1991, 'Louis. I. Kahn: Writings, lectures, interviews', Rizzoli, New York

Khan Louis I., 1961, Interview in *Perspecta* Vol. 7, MIT Press, pp. 9-28.

Kwinter, Sanford, 1994, 'Whos afraid of formalism?' '*Any' Magazine*, no. 7/8, The MIT Press

Latour, B., 2005: 'Reassembling the Social. An Introduction to Actor-Network-Theory', Oxford University Press

Latour, B., 2006: 'From Realpolitik to Dingpolitik or How to Make Things Public', In: 'Making things public: atmospheres of democracy', Ed. Latour, B. et. al. Center for Art and Media Karlsruhe/ZKM, Germany and MIT

Landa, M. De, 1999: 'Deleuze, diagrams, and the openended becoming of the world', In: 'Becomings: explorations in time, memory, and futures', Ed. Elisabeth Grosz. pp. 34 ff

Law, J., 1994: 'Organizing Modernity', Blackwell

Law, J., 2002: 'Airplane Stories - decentering the object in technoscience', Duke University Press, London.

Lawson, B., 1997: 'How designers think - the designprocess demystified', Architectural Press, Oxford

Lund, Lene Dammand, 2006: 'Brugerinddragelse', Kunstakdemiets Arkitektskole, København

Lundequist, J., 2005: 'Om at definiera arkitektur', *Tidskrift for Nordisk Arkitekturforskning*, vol. 18/4, pp. 81-91

Mol, A. M., 2002: 'The body multiple: ontology in medical practice', Duke University Press

Pickering, Andrew, 1995: 'The mangle of practise: time, agency and science', University of Chicago Press

Rahim, Ali, 2002: 'Potential Performative Effects'. In: *Architectural Design*, Vol. 72 nr. 1/2002. pp. 52-63

Rahim, Ali, 2006: 'Catalytic Formations – Architecture and digital design', Taylor & Francis, London/New York

Ronner, H., Jhaveri S., and Vasella A., 1977: 'Louis I. Kahn: complete works 1935-74', The Swiss Federal Institute of Technology, Zurich, ETH

Summerson, J., 1957, 'The case for a Theory of Modern Architecture', In: Ockman, J. (ed) 'Architecture Culture: 1943-1968, A Documentary Anthology', Columbia. pp. 226-236

Turnbull, D., 2000: 'Masons, tricksters and cartographers', Harwood academic publishers

Twombly, Robert (ed) 2003: 'Louis Kahn – essential texts', W.W. Norton, New York/London

Uhrsprung, P., (ed) 2002: 'Herzog & De Meuron -Natural History', Canadian Centre for Architecture and Lars Müller Publishers

Yaneva, A., 2005: 'Scaling up and down – extraction trials in architectural design', *Social Studies of Science* Vol. 35/6, Sage Publications pp. 876-894