‘Conquering the Classroom’ - Tracking Architectural Controversies

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Abstract

How can buildings be perceived not only for their properties as stable objects and spatial organisation, but also and at the same time as series of transformations, as socio-material orderings, as movements? On the basis of a discussion between architectural theory and actor network-theory, the paper proposes that spatial visions can be followed as issues of dispute and investigation in distributed, cognitive processes. This paper is based on studies of the planning of a new secondary school, focusing on a spatial concept emerging during the course named ‘The X zone’ – a spatial zone for interaction. Through analytical emphasis on the visual materials and documents produced during the process, and through interviews with architects, clients and engineers, I describe the continuous efforts to establish and strengthen architectural motives, and how they eventually gain the ability to align other motives and other actors.

Keywords: architecture, architectural theory, actor-network theory, architectural process
1. Introduction

The main purpose of the paper is to contribute to understandings of architecture as series of transformations, as moving projects. It is also to demonstrate, that theoretical information for such an analytical stance can be provided by a meeting between architectural theory and the branch of Science-Technology-Studies (STS) known as ‘Actor-Network-Theory. (ANT). In order to face the rapidly increasing awareness of how much responsibility issues of sustainability pose on architecture and architectural theory, it is required to open buildings for the recognition of their properties as more than the stable, quiet objects in our cities. (Wang 2009). The overemphasis on a ‘final building’ in architectural theory will have to yield to perceptions of architecture that allow us to regard buildings also in terms of the longevity life of their different components and materials, the social mobilization they require and facilitate and their ability to adapt to the demands of a changing future.

2. Literature review

2.1 Architectural theory

Although architectural theory is multiple and widespread, and not a tightly and well-defined area of research, it is possible to detect renewed awareness of, and analytical sensibility towards the practices of architects during the last decade. What is interesting here is to look at authors who re-question the issue of architectural medias as a mere ‘transportation of meaning’ from ‘idea’ to ‘completion’, and who at the same time seek to transcend the narrow classical philosophical focus on the relation between matter and form, and thus widen the understanding of agency in architecture. In his much quoted essay ‘Translations between drawings and buildings’, British architect and architectural historian R. Evans points to the relation between geometrical techniques and the architect, suggesting that there is a cognitive relation when stating how: “[…] the imagination and the technique worked well together, the one enlarging the other” (Evans 1997:178). Evans argues that it is not possible to separate the drawing technique applied by the architect from the imagination of the architect; they work together, so to speak, in performing enchanting transfigurations – “the one enlarging the other” (Evans 1997:181). This form-developing dynamic is a major subject with many architectural theorists from different fields. (See e.g. Kwinter 1994:98. For debates of the dynamic as a hermeneutic relation, see Vesely 2004:43-108 and Lotz 2008:89). With the Dutch architect N. J. Habraken, a notion of – and even a set of principles for – ‘an agency of form’ in the built environment are developed. The fabrication of the built environment is seen as a game play in different levels and scales, where architects are in line with developers and authorities amongst the players, exercising control in the built environment. Form is a materialisation of the varying dominance of players over the different levels and territories (Habraken 1998). The American landscape architect and theorist J. Corner delineates these expanded focuses in architectural and urban practises. He indicates how through urbanists such as R. Banham, E. Soja, D. Harvey, R. Koolhaas and B. Tschumi, anthropologists such as M. Auge, or philosophers such as H. Lefebvre or G. Deleuze, it becomes clearer to architects and planners that ‘space’ is more complex and moving away from physical objects and towards the variety.
of territorial, political and psychological social processes that flow through space. The interrelationships amongst things in space, as well as the effects that are produced through such dynamic interactions, are becoming more significant for the intervention into urban landscapes than the solely compositional arrangement of objects and surfaces (Corner 1999). The American architect S. Allen suggests an opening towards an understanding of architecture emphasising its properties as active in its own process of becoming. In the almost paradigmatic statement: “[…] practices imply a shift to performance, paying attention to consequences and effects. Not what a building, a text or a drawing means, but what it can do: how it operates in – and on – the world” (Allen 2000:xxiv). Allen furthermore suggests a debate on what ‘meaning’ in architecture is, and advocates “[leaving] the representational stage in favour of the ontological construct” (Allen 1997). Allen is in line with Evans when he dreams of “[…the possibility of writing] a history of Western architecture that would have little to do with either style or signification, concentrating instead on the manner of working” (Evans 1997:185). Also among the phenomenological informed branch of architectural theory, where the meanings and intentions in architecture occupies minds, a more nuanced debate on the relation between ‘representation’ and the built work arises in favour of a less rigid understanding of a one-to-one correspondence between the intentions ‘embedded in the idea’ and its ‘expression in the final building’ (Pallasmaa 1993, Vesely 2004, Perez-Gomez 2005).

2.2 STS and ANT

The research traditions of STS and ANT have followed the practices of scientists, engineers and physicians in and out of their workplaces, while insisting on – and developing methods for – keeping an analytical focus on technologies, visualisations and materials, giving them equal attention compared to humans in order to expand our notion of whom and what participate in, and constitute ‘the social’ – and how this is done. Many of these studies had their point of departure in ethnographical observations following actions in laboratories very closely; “the place where the labour of science is performed” (Lynch, 1985: 4). A distinctive feature of this tradition is that it does not access science through its products – the stabilised facts – but through the studies of the laboratory work of stabilising facts, of acquiring and producing knowledge. One of the main features of ANT has been its ability to demonstrate in specific details how the ‘body of knowledge’ in science comprises utterly heterogeneous knowledge forms and practises, entirely dependent on the materials and technologies involved (Latour & Woolgar 1979, Latour 1987, Stengers 1993, Pickering 1995). In recent years, studies with this ‘classical’ ANT approach have been carried out in the realm of architecture through thorough descriptions and analyses of certain very specific architectural practises conducted at architectural studios. In ‘Scaling up and Down’ from 2005, A. Yaneva studies how architects imagine, see, and define a distant object, which is meant to become a building, through the production and investigation of scaled models. This is described as a shared or distributed cognitive process among the participating architects and their models (Latour and Yaneva 2008). But STS literature – and that of ANT in specific – also counts studies in which a specific issue – or ‘thing’ – is tracked and analysed in a wide variety of settings where it performs and is performed in different ways through many actors. In ‘Aircraft Stories – Decentering the object in technoscience’ from 2002, J. Law investigates the planning of and disputes about the cold-war aircraft TSR2, revealing how the process momentarily succeeds to attain the singularity of the aircraft through the relations established
between humans and artefacts – and how this achievement accomplished through hard work is easily lost again in favour of disassembled heterogeneity. It shows how artefacts, humans and processes comprise multiplicities not coherent or singular at all, held together by a thousand different modes of arranging and organ-ising things and humans. It shows how much work it takes to maintain any kind of order and prevent it from deterioration. In ‘Body multiple’ from 2002, A. M. Mol shows how the practises of arthrosclerosis are many and different: patients, nurses, doctors, various clinics, relatives, methods of measurements and representations – they all ‘do’ arthrosclerosis in very different ways. Mol argues, that we do not possess a single body anymore, but inhabit ‘a body multiple’ that is acquired in an almost endless variety of ways in different practises. The studies are not confined to the setting of the laboratory or the clinic, but follows how seemingly stable objects (‘aircraft’, ‘body’) continuously oscillate between singularity and heterogeneousness, being “more than one, but less than many,” as John Law puts it. These works form a methodological and theoretical point of departure for this article, in order to grasp how architecture works as both the singularised result and as the assembling, coordination and alignment of actors. Because the empiric and methodological tools are developed in order to study ‘science-in-the-making’ as opposed to ‘science made’ (Latour 1987:4), ANT might contribute to architectural theory when a similar analytical stance, ‘Architecture in-the-making’ as opposed to ‘Architecture made’, is asked for. The widely distributed and quite volatile set of theories and ethnographically inspired methods seems to have a lot to offer architectural theory, especially in terms of analytical tools that opens up to perceptions of the vast amounts of ongoing social coordination between human, material and technological actors needed to establish and maintain architecture.

2.3 On distributed cognition and translation

The notion of ‘translation’ in relation to the question of how drawings, models and spread-sheets end up as buildings in the streets seems appropriate here, as this touches upon the question of the function of visual objects in architecture. Evans and Latour both introduce the notion of translation, recognising its etymological implications of distortions of that which is translated along the way travelled. The suggestion, if only indirect, is that of a cognitive relation between architect, drawing and geometry. Such a relation between architect and drawing can also be recognised in the concept of ‘reflection in action’ formulated by D. Schön, who regards the act of drawing as “a conversation with a situation” in which local experiments on defining the problem take place (Schön 1983). The issue of a cognitive relation between drawings – or in a broader sense, all kinds of materials and technologies – and humans is studied by the American anthropologist E. Hutchins. Here, the empirical approach is to assume that processes of cognition imply the participation of both humans and ‘non-humans’. Consequently, studies of cognition will have to consider the entire cognitive system, instead of “placing too much within the individual” (Hutchins 1995:355). There are some striking similarities between the considerations of Evans and Schön on the cognitive character of the work of architects, and the investigations of what Hutchins has called ‘distributed cognition’. Similarities can also be found between the Latourian notion of ‘mediators’ who translate and distort whatever they mediate, and the way Evans applies the term ‘translation’ (Latour 2005:39). However here, a far-reaching difference in the implications of the notion occurs. In the Latourian edition, the term ‘translation’ is a cornerstone in the elaboration of the well-known, quite radical notion of ‘the social’, formulated in
Latour 2005:108. To Evans, translation is a vehicle limited in range to the enhancement of spatial cognition and creativity between architect, geometry and materials. This is of course a matter of enormous importance in architectural theory, but compared to the ANT understanding of how translations are conveyed between much wider arrays of agents, it has a more limited scope. There is a difference between regarding the drawing as a device for amplifying intentions embedded somewhere within the individual, and then understanding it – and all other kinds of visualisations and materialisations – as actors with the capacity to change the course of action in open-ended processes comprising many different actors, much more messy and contradictory situations. With Hutchins we can say that the cognitive properties of the individual differ significantly from the cognitive properties of a group.


The main empirical source (‘single-case’) of the papers is a building process for a new secondary school, from the planning of the programme for the architectural competition to the projecting and construction with particular analytical attention to the visual material generated. This paper demonstrates how an emergent architectural statement is recognised, researched and developed as a ‘putative agent’ (Law 1994:10, Lotz 2008:180), how it strengthens its networks by mobilising other actors and aligning them in alliances, and how it is eventually able to change the course of action of other actors. The classroom as the single most important spatial entity for learning and teaching has been contested in learning theory for decades. Quests for spatial configurations that are able to meet the changing perceptions of learning have engaged both public debates and professionals in planning and education for the last decades. Since the rise and decline of open-plan schools in the 1970s, learning theory has developed notions on differentiated ways or ‘styles’ of, and settings for learning. This has called for new ways of arranging space for teaching activities, and has thus set a new agenda for school builders (Gardner 1983 and 2006, Lave 1991, Dunn 2000, Kirkeby 2007). Through interdisciplinary processes involving a wide array of stakeholders such as teachers, students, pedagogues, planners, theorists of learning and a vivid public debate, architects have been involved in the formulation and visualisation of anticipation concerning the properties and qualities of future spaces for education at all levels: primary schools, secondary schools and universities. When the early planning for a new secondary school in Copenhagen called ‘The Secondary School of the Future’ (in Danish, ‘Fremtidens Gymnasium’), began in late 2001, no new secondary schools had been built in Denmark since 1984.1 The regulating law on secondary education from 1907 had only been slightly updated in 1988, and at the time of planning the new secondary school, preparations were made for a more extensive reform of the law. The preparations for this included public debates on a number of issues concerning fundamental elements of teaching and learning, and the emphasis was on providing a wider array of possibilities for individual planning of education by making more subjects open to

1 The following is supported by observations and empirical data gathered mainly through interviews conducted during the process by the author. This material was supplemented with interviews with the job architect and the job engineer of the secondary school, and the head of the office at the Administration of Children and Youth in the Municipality of Copenhagen, all conducted in February 2009 by the students of the TEK5 course at the Royal Academy of fine Arts, School of Architecture: M. Kahr Nielsen, A. Johansson, E. R. Bruun and A. Suhr Laustsen.
the students' own choice. The law was agreed on politically in 2003 and implemented in 2005. At the
time, the planners were faced with quite an open and unsettled situation in terms of how to formulate
a programme for the later architectural competition, as in fact, they did not know what ‘a secondary
school’ was or should be. During the debate on learning in primary and secondary schools
surrounding the new law, the properties of the confined classroom were a major and recurring issue.
The open-ended character of the debate is emphasised: “Organisation in fixed classrooms, fixed age
groups and fixed schedules are under debate and transformation. Yet it is important that students are
still rooted in stable and clear communities hitherto provided by the classroom” (Municipality of
Copenhagen 2002a:5). The classroom has strong, historically durable allies as supporter of ‘stable and
clear communities’ and it is not that easy to disintegrate and re-format its network around other kinds
of spatial concepts. In order to create awareness, especially among political decision-makers, of the
need for new kinds of spatial organisation of learning in secondary education, the administration of
the Municipality of Copenhagen took a series of initiatives. These steps were also taken in order to
qualify the programme for the upcoming architectural competition. Educational researchers were
consulted, and workshops with students and teachers from a number of secondary schools produced a
lot of visual materials with ideas for ‘The Secondary School of the Future’ (Municipality of
Copenhagen 2002b). A series of workshop sessions were held, where teachers, clients and educational
researchers worked together with three invited, young architectural firms. In this course, the visual
and analytical capacities of architects were employed in quite direct cooperation between participants,
and it thus constitutes a relevant situation for following the ‘inscription devices’ produced. Various
‘process techniques’ like the one described in the following, i.e. making use of the competencies of
architects in order to involve users and stakeholders at an early stage of planning, have been
developed especially within the field of education through the last decade, but they have quickly been
disseminated to become widely employed in various areas dealing with planning of all kinds of public
space. (Kirkeby et al 2003, Løssing 2005, Kirkeby 2007, Lotz 2008. The examples here are from
Denmark, but similar trends can be followed in the rest of Scandinavia and England.). The programme
for the workshops sums up relevant tendencies in the ongoing debate on secondary schools and
political visions. It asks for different levels of investigations from participants on ‘different
pedagogical spaces of learning’, on ‘new roles for teachers and students’ and on ‘spatial principles’.
The audience for the results is broad, ranging from students and employees to decision-makers at all
levels, including politicians. It specifically asks for ‘inspiration’, and not for a ‘proposal for any
concrete school’. Consequently, the invited architects were explicitly asked not to produce concrete
proposals for an actual building, but to prepare “…a general material describing and visualising
pedagogical and spatial visions for the Future Secondary School” (Municipality of Copenhagen
2002a:3). Obviously, this has as a consequence that the works of the participating architects do not
have the final building as a target, but rather the investigation and visualisation of possible spatial
arrangements for different kinds of learning environments and their interconnection, where the
classroom as a structuring unit needs to be translated into ‘general areas of study’. Equally, the
special subject rooms are displaced by a “subject-toning of the general study areas with necessary
facilities, installations and spatialities, thus making the general study areas more subject-orientated”.
This is supported by a diagram as shown in Fig. 1, where five characteristic assemblies of figures are arranged so that they have overlapping spheres between them. Without making ‘concrete proposals’, the teams approach different possible spatial possibilities. The architect Dorte Mandrup Poulsen proposes to focus investigations on what she terms ‘vertical learning’. Her model in Fig. 2 suggests how spatial zones and planes might be separated, yet still interconnected. Here, the different zones of the diagram in Fig. 1 is transformed into a 3D figure, where each zone has its own plane, but remains in communicative contact with the other planes – in the vertical. In Fig. 3, the notion of an ‘X zone’ emerges in a diagram from the architects from the office PLOT, who continued the proposed investigation of ‘vertical learning’. The figure shows a layered diagram of planes, where the space in the middle, connecting other areas, is marked with an ‘X’. In the following material, the possibility of arranging floor decks around an open space is further investigated under the name ‘X zone’ (Fig. 4, 5a-d). These diagrams are further investigated – or translated – in small-scale models, where the arrangements of the different fields around a ‘split zone’ covering several floors with more or less open contact to all areas become more apparent through the use of transparent material for the decks.
3.1 ‘Putative agents’ and ‘Inscription devices’

A little handful of notions from the ANT affiliated literature volunteers in the sense that seemingly they hold capacities for grasping the situation evolving around the emerged ‘X zone’. Now, who invented this notion? Was it there from the start – in the diagram? In the preparations for the new law? What do the figures actually mean? These questions do not really
matter here. The interesting question is how it becomes able to travel between actors – how it starts to work. What matters is whether the material generated is able to establish a capacity, an authority, an amount (or in Latour, ‘a cascade’) of evidence of other kinds of spaces for learning, that have the ability to beat the classroom. John Law writes: “This is the process in which putative agents attempt to characterize and pattern the networks of the social: the process in which they attempt to constitute themselves as agents. Thus an agent is a spokesperson, a figurehead, or a more or less opaque ‘black box’ which stands for, conceals, defines, holds in place, mobilizes and draws on, a set of juxtaposed bits and pieces” (Law 1994:101). This is truly a ‘life or death’ issue! ‘Putative agents’! Agents that are supposed to decide on the orders, and they only get the chance to ‘become’ if they succeed in this. And if they succeed, they become ‘spokespersons’ in the network. These are the interesting questions and struggles to look at. The ‘how to’ get heard and seen in the processes of becoming; how it entails keeping others in place, defining them and concealing how inhomogeneous and numerous they are. The power of the ‘spokesperson’ is to conceal differences in order to make order. This is why it makes sense when Law describes the attempts and struggles to ‘become an ordering device’ as ‘Darwinian’, or rather ‘Machiavellian’. And how it becomes possible to talk of how some of them become bigger than others. It is murder out there: lots of killed darlings. The X zone manages to mobilise and draw on a large number of bits and pieces: the workshop programme, the arranging administration, the debate surrounding the new law etc. The workshop participants, architects, the arranging administration, materials from the earlier workshop, translations of various learning theories are all gathered in an A3 booklet. It is obviously not ‘an unbreakable whole’, and it does not hide the ways in which it has come about in a stabilised and closed ‘black box’. It is, rather an open dispute - a shared uncertainty. In order to account for the “strategies, techniques and manoeuvres” (in Foucault) in architectural practice, the studies of architectural becomings will have to follow these ‘putative agents’ in their relevant networks and describe how they struggle for survival. And things and humans will have to be given equally analytical attention, also in the way we assess their constant risk of facing extinction (see also Lotz 2008:180). The sketches, diagrams and models fabricated in this – architectural – setting can be regarded in the same way that ANT regards the ‘inscription devices’ of science. Diagrams, models and pictures, and even direct references taken from magazines of other kinds of architecture. The notion covers the notes and diagrams, numbers and tables that transform – or translate – rats and peptides and DNAs into paper. With Latour, we can sum up its abilities and properties as ‘inscription device’: the booklet is mobile and gains the ability to travel from the workshops among various administrations of the Municipality, among politicians, among the management of the new school and further into the programme of the later architectural competition. It is not changed while moving and is thus immutable, it is flat, the scale of inscriptions may be modified at will without any change in their internal proportions; and it can be reproduced at little cost. And since these inscriptions are mobile, flat, reproducible, still, and of varying scales, they can be re-shuffled and recombined; they can – and this is important – be made part of a written text (Latour 1990:44-47) (see also Latour & Woolgar 1979:51). But as Latour points out, the most important part is that the advantages of the ‘inscription devices’ should be seen in conjunction with the mobilisation process they accelerate and summarise. It has to do with how attachments and associations enrol different kinds of actors as allies in the network. Relevant actors have chosen the visualisations among the many available ‘inscription devices’ produced in the workshops. They have pointed them out, constituted them and mustered them. And thus, they have linked their own stakes, their own performance of authority and competence to them. (John Law has termed this ‘linking’ as
‘interpellation’ – with a loan from Althusser, see Law 2002:51). And this in favour of all the material, all the drawings, models and renderings that ended up in the dustbin; not pointed to by others, not lifted up and debated and furthered. Vast amounts of ordering attempts that died even before they were born. And they are only taken into account in this analysis in text, but take my word for it: they were many, and each of them might have influenced the course. It could have been different. It is not a manifestation of linearity in the analytical outset. But actors will keep the course on this linear track, as long as it is in their own interest!! Linearity and singularity are constructed all the time (Law 2002:53). It is also in that respect that the process resembles ‘the laboratory of science’, where data is continuously re-configured in new kinds of ‘inscription devices’, and it is these continuous re-configurations, or to put it more precisely, translations that allow for new actors to stabilise. The next suggestion is to regard the practices unfolded here as a formation of a ‘laboratory of architecture’ aimed at manufacturing evidence for ‘a future present in the present’ of ‘The Future Secondary School’. Evidence designed to make strong alliances among a wide variety of participants and interested parties such as planners, politicians, school people, students, parents and a wider public. The notion of ‘the laboratory of science’ as an unconfined space of specific interests is formulated by the Belgian theorist of science I. Stengers as a knowledge space in which those who have let themselves become interested, and who are already ‘in play’, propose and fight for statements that are subsequently widely distributed (Stengers 1993:92). Architecture lost its status as a science many centuries ago. But the resemblance is useful in order to give attention to how an analysis of the practices of architecture can expose the specific ways in which architectural statements are transported, translated and distributed way beyond the studio, and way beyond the confined hermeneutic or limited cognitive relation between the architect and her drawings. Now, the material travels from the workshops into the architectural competition. These two settings differ quite radically when it comes to the character of argument they are supposed to produce, and the procedures and social ordering devices employed also differ. As stated, architects are specifically asked not to produce ‘end results’, but merely ‘investigations’ during the workshop. Obviously, the purpose of the competition procedure is to stabilise a single proposal as the best solution and to announce its architects as the competition winners. The requirement to the entries is that they have to take into consideration all the different requirements to the regulations of the site, building technologies, climate, structure etc. Thorough studies of the contingency of the architectural competition as a ‘decision machine’ has been made, and it is not the purpose of this paper to enter this debate (see e.g. Bjerg 2002, Kreiner 2006 and 2007). Rather, the purpose is to point at how the already achieved durability of the argument of an X zone eases its journey and makes it a favourable alliance for other kinds of arguments and concerns in the winning entry and in the construction of the building. In the programme for the architectural competition, the notion of the X zone was formulated as follows: “The X zone is the secondary school's crossdisciplinary, public space, which internally reflects and communicates the untraditional academic meeting and the secondary school culture as a whole. The X zone is to be in touch with study zones and the common zone, and it should move elastically through all floors vertically and horizontally, where areas, room heights, physical layout and spatial characteristics are adapted to the given context. The X zone will contain various spatial qualities from public to more intimate spaces, as it contains the secondary school's traffic distribution, niches for in-depth studies, study environments and crossdisciplinary areas. [...] The X zone is the inspiration space that renders the crossdisciplinarity visible and exposes the study zones' activities to the public life of the secondary school.” (Municipality of Copenhagen 2003). In the winning proposal
from the Danish office 3xN, a series of diagrams depicts the vertical flow through the house, starting with the ‘X zone relation’ in the upper left corner (Fig. 6).

The job architect explains: “The X zone is a common working environment, where you meet across the different departments. We have tackled this very concretely by making a boomerang shape, which results in a zone that overlaps the zones below by rotating them in relation to each other. Using this approach, we achieve a continual movement down through the house. That’s sort of the idea: Everybody has their own floor, but they also have an affinity with the large space. When you are there, it feels like it is almost one huge space, whereas actually it is only a part of the area, 2/3 of it is of normal floor height. What happens at this point is that it goes from 2 to 3 to 4 to 5 stories out here, and that makes it possible to create these islands with different study environments. This zone is an architectural parti, you might say: it resolves the issue of both the X zone they want for people to meet in and at the same time ensures lots of light and air, although the building is very compact. It also resolves the issue of circulation in the central atrium.” The job architect does not think of the proposal as bearing resemblance to the visualisations of the workshop architects, but acknowledges it as a work aimed at “moving some boundaries in relation to an old-fashioned tradition in order to prepare users and contractors not to make classrooms and passages”. But despite his reluctance to recognise the resemblance between his own proposals and the models from the workshop, what he does is to enrol the X zone – whose formulation in the programme is a translation of these models – as a major ally for ‘the architectural parti’ of the whole building. The distribution of light, the circulation in the central atrium – all gain authority from the X zone through alliance – and vice-versa. It would have required a lot of work from the competing architectural firms to establish an architectural proposal that did not align with the notion of the X zone and still convince the competition jury of its feasibility. Such a proposal would have had to re-open the debate on the classroom. It would have required the establishment and stabilisation of architectural motives capable of beating the X zone. Several of the competing proposals do not manage to convince of their translation of the X zone, and are not taken into consideration by the jury. Not only does the process re-format or re-obtain ‘secondary education’. It also re-formats architectural competence in several ways. Firstly, it questions architectural competency as something hidden within the architect in favour of placing it more with the specific formations of relations around architectural motives – or ‘putative architectural
agents’ Secondly, it questions the role of the architect as the one who proposes ‘what no-one expected’. Obviously, the specific spatial arrangement of the winning entry was not foreseen or asked for. It could have been different. But the degree of specifications for the X zone was quite high, and the amount of actors assembled to back up this notion was considerable.

3.2 Obligatory passage?

During construction, the specific way of marking the floor decks in the facade becomes an issue. It is regarded by the architect to be of importance, because it emphasises the inner ‘boomerang’ organisation of the decks that is the main feature of the open X zone. It is difficult to achieve these horizontal beams in the facade for many reasons. It is difficult to reach a sufficient level of insulation and it is difficult to achieve the necessary precision in the in-situ casting of the beams. In spite of this, the motive is sustained because of its strong connection to the X zone. We might even say that the X zone has been stabilised as an actor to consider to the point where other motives associate with it in order to get by – daylight, circulation, composition of facades. Other architectural motives strengthen themselves by ‘passing through it’. In the Latourian vocabulary, ‘an obligatory passage’ is an actor that no-one escapes – all have to pass through it. A scientific fact, for instance, is an obligatory passage. If it is a well-established fact, all subsequent scientific actions will have to take it into account. When facing the difficult horizontal emphasising of the decks in the facade, references are made to the X zone in order to stabilise the motive. It is not a question of ‘the rhetorical defence of the architect’. It is a stabilisation of a specific materialised, spatial cohesion between specific building parts and the conception of space, established not only in the building, but in the socio-material network it is an integrated part of. Obviously, the X zone is not stabilised to work as ‘a singularity’, neither it is ‘black-boxed’ to the point where all the work done to make it cohesive is hidden. Of course, it is up for grabs throughout the process. In that respect, it is more a story of how “the work of object coordination and object disaggregation goes on and on” than of the “black-boxed work of architecture” (Law 1994). But the network of the X zone has achieved the stabilisation of a spatial concept with the ability to compete with, and knock, ‘the classroom’ out of the game. At the same time, it aligns with and supports specific architectural choices throughout the building, which by this aligning traffic between different architectural motives obtains a high degree of architectural cohesion.

4. Conclusion

The arguments developed by ANT authors seem to volunteer to contribute to the branches of architectural theory that has as an ambition to be able to analyze buildings more as processes and less as ‘stable artefacts’. ‘The social’ and ‘the material’ worlds are not apart, but interdependent in a continuous re-ordering and becoming. Both ‘humans’ and ‘non-humans’ should be granted agency. The advantage of following the emerging architectural motives and making them subject of analytical scrutiny at the level of the practices of the planners and architects of the building by means of the analytical tools derived from ANT allows us to perceive the emerging building as an oscillation between its ‘thing-ness’ and its ‘process-ness’ To suggestions for further development of architectural
theory can be posed: First, to do away with the historically derived reluctance to deal with notions of ‘the social’ and the power distributions taking place in architectural production. Second, to leave a traditional understanding of ‘representation’ and instead starting to talk about a kind of ‘agential realism’ in relation to the technologies of the architectural process – most evident the visualisations of architects (Lotz 2008:229). In this way, the analysis developed in this article can be seen as a reply to Stan Allen's open quest: “not what architecture means – but what it does”.

**References**


Municipality of Copenhagen (2002b) *Rumforskning – elevprojekt*. (Space research – student's projects) Københavns Kommune (Municipality of Copenhagen)


Yaneva, A. (2005) “Scaling up and down – extraction trials in architectural design”. In: *Social Studies of Science* Vol. 35/no. 6:867-894. (SAGE Publications)