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EXERCISES

A Discussion about Archi- tectural Educa- tion with Joost Meuwissen and Carel Weeber*

FIRST PUBLISHED IN OASE 22

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This interview took place at the offices of ArchitectenCie in Amsterdam, 10 October 1988. Joost Meuwissen is an architect, theoretician and lecturer in architecture at Eindhoven University of Technology and several other schools and editor of *Wiederhall* magazine. Meuwissen obtained his doctorate in architecture with a thesis on 'Architecture as Ancient Science'. Carel Weeber is an architect, professor in architectural design at Delft University of Technology and the man behind the Durand institute.

TO SIMPLY BUILD

^{CW} In my opinion, architects in the Netherlands are incapable of building on any kind of architectural tradition. Building is in constant flux. Everything is extremely dynamic, with a new big thing coming around every ten years. Elsewhere in the world you see a huge output of buildings that are simply buildings. They do not feature in any publications – they're simply there. At the same time, you see the kind of output that we will be looking at. In the Netherlands everything at the more experimental reaches of architecture is often quickly channelled into mainstream output. It is strange to see no more trace of an architectural tradition with its roots in the nineteenth century, such as we see in the work of Van der Steur or Evers. It has been ousted by the Delft School on the one hand and the Modern Movement on the other. The latter usually sees the Rietveld-Schröder house – a piece of furniture rather than a building – as its apogee. An unusual experiment is seen as architecture. I believe this is a worrying trend. We are lurching from one movement to the next, with scant opportunity, indeed scant appreciation, for simply producing buildings. In other countries, modern architecture is rooted in both architectural output *and* in design. This is something that never really got off the ground here. The Netherlands has no nineteenth century and that is why Delft has proven an unstable course. Instead of teaching students how to build we expect them to experiment.

I suspect that virtually every student of architecture grapples with the question of 'how to become famous'. But that is a stupid question. Still, this is the kind of environment that our students are taught in. Artistry is an issue until the very last, even though it is largely irrelevant to most of our students. Of course it is good to be familiar with the cultural context of architecture, but if you are learning how to design buildings it should be little more than a side issue, not the main focus. The emphasis on artistry gets in the way of learning a skill, of designing buildings. Students feel frustrated because they cannot draw what they want to draw.

I am surprised to see the curriculum attach such prominence to buildings that I consider, from a construction point of view, to be bad buildings. There is this strange predilection for collapsing buildings. Duiker's sanatorium and Van Eyck's orphanage are a case in point. I suspect that for most students this is all rather unproductive, unless these buildings are looked at within a contemporary and even older context. Show students the significance of a Duiker building compared to a building by his contemporary De Bazel; explain their architectural qualities, the architectural themes and their different social contexts.

The element of stability is extremely important for education at the big schools. The smaller schools, the ones providing post-graduate training for instance, could then offer a more informed and comprehensive approach to the experimental. That is what I had in mind for the Durand Institute, now the Berlage Institute.

EDUCATIONAL MODELS: TWEAKING REALITY

^{OASE} While preparing this issue we were struck to find elements of different approaches, both practical and cultural, exist side by side in education. It seems important to us that the differences between these approaches are clearly outlined and that the theories underlying these approaches are understood. A course taking these differences as its starting point would be an option.

^{JM} Yes, but what I find problematic is that often the practical aspects of building immediately find their way into education, whereas the development of concepts, the theory, is seen as something quite distinct, as a form of embellishment. I, on the other hand, believe that theory generated in practice is important. Theory does not provide some kind of added value. What is important is the rate of recurrence of problems and the way these problems are formulated. This is what I would call a problematising approach. It raises questions about the context in which the architect creates a design for a building and about the interpretation of this context. Modern architecture only needed a few words to describe this context, thanks to the presence of groups of architects united around a collective programme, legislation and a clear view of urbanism. This kind of contextual information is what is missing now. In order to achieve some level of success, architects are now forced to define their context on a case-by-case basis. What's more, the context must cover a broader area. The design is expected to deal with more problems than it did back in the 1950s.

^{CW} But this is all based on the current situation. Surely you cannot use that as a foundation for education?

^{JM} But the current situation is important. In the past you could explain the concept of council housing to someone by referring to so-called *Wenken en Voorschriften* (Rules and Suggestions). It allowed you to take a more limited approach to housing design. It was unnecessary to explore the housing programme, since it was already in place.

^{CW} I believe there is a much more implicit set of regulations. And that set seems to me to be of greater importance than the legislation targeting local issues, such as the Rules and Suggestions. The design process remains essentially the same, whether you're designing council housing in the Netherlands or in the south of Italy. What's more, I believe that the design brief is largely irrelevant to the design process. However, in Delft functionalism has become so entrenched that everybody is convinced that a brief is indispensable for design. The upshot of all this is that Delft has no theory of architecture.

^{JM} Architectural education is almost always based on simulation – the simulation of a hypothetical situation. Yet this is never made explicit.

CW Yet strangely enough, such simulation models rarely feature the cost of construction, the Rules and Suggestions, the building regulations, and so forth. The word in Delft is that these elements inhibit creativity. So you end up simulating nothing other than the free interpretation of a practical commission.

As I was saying, the design brief is really crucial in Delft, even though the brief in itself does not produce a design. There seems to be a kind of knowledge that allows you to predict, as it were, that such-and-such a form of spatial planning will be suitable for such-and-such a brief. The resulting spatial planning then becomes a variation on familiar spatial planning. For instance, everyone automatically draws corridors with rooms or stairwells with levels, even when the brief does not specify this. In other words, certain schematic plans lend themselves to dealing with certain briefs. But the number of suitable schematic plans turns out to be limited. All in all there may be ten schematic plans that are capable of dealing with any number of design briefs. You need to know these schematic plans inside-out. They form the foundation for your designs. In my view, this is receiving nowhere near enough attention in Delft. At the start of their course, especially, students must be made aware of these schematic plans, quite independently of any briefs. Question: how do you organise a building? You can turn this around: the floor plan of a building does not tell you what the building is like. Archaeologists usually cannot determine the purpose of a building until they have located the pots and pans.

The current educational system does little to teach knowledge of buildings. Students are expected to invent the wheel all over again. In the end it is usually less difficult than anticipated, because there seems to be a kind of intuitive sense of buildings. But because this intuitive knowledge is not properly structured, the whole design process becomes rather laborious. At present, the emphasis is mainly on visual aids. Students are being bombarded with pictures of architecture, but these do not tell them how a building was actually made.

OASE Visual aids form part of the knowledge of buildings. The vertical elevations, the use of materials, etcetera, can be described and analysed. The book *Kleur en Architectuur* (Colour and architecture)¹ is a good example. This kind of structured knowledge is conspicuous by its absence in our educational system. It surprises me that the debate around typology and morphology has been adopted from other countries, but the debate around elevations has not.

CW: Yes, theory is an extremely tricky issue in the Netherlands. Before you know it, theory has turned into theology, with everything taking on an ideological hue. Other parties knock it down immediately, and that puts a stop to any further development. In that sense, the Netherlands does not offer very fertile soil.

JM But these kinds of debates are essential to architectural education. I like the fact that theory is seen as something that comes after the buildings and not as something that precedes them. As such, the process no longer revolves solely around the design but also around the way in which architectural material is structured. This has been covered by so many theories. I believe that education is less about making a selection from a certain typological set of architectural material, and more about explaining the consequences of that selection and the composition of that set. This applies to the elevations, the colours, the floor plan and the relationship between the building and its environment.

Everybody must know the old schematic plans of architectural material inside-out and much of our education should be geared towards this. It is possible to explore the nature of these schematic plans. Typological sets are often characterised by similar floor plan solutions. The solutions can still be adjusted at this mental level. A hallway, for instance, can be 2 or 3 m wide. It is also important to bear in mind that the design process no longer follows the usual sketch-to-working-drawing route. Students must be taught to render their ideas clearly at the level of the schematic plans. At the moment there is no sign of this whatsoever. Drawings are virtually non-existent in the design process, while the schematic plan, which could be drawn up in advance, is usually drawn up in retrospect. Theory plays a crucial role in all of this.

Evaluation poses a significant problem within architecture. We see this in practice in the case of new commissions or the judging of competitions, and in education when a teacher is marking. The evaluation process is a highly underdeveloped area. For a long time after the implicit evaluation that characterised functionalism we were told that anything goes. That is not true. Some buildings are better than others. The significance of theory lies in this, namely that when you describe something as good, you can explain why. This can be done both within education and within architectural criticism. And the schematic plans play a major role in this process.

So what education needs is the formulation of certain extra-educational objectives. Objectives are quantifiable. For instance, it is not inconceivable that an objective is not achieved, which can be significant in itself.

CW One option would be to expose the premise of a certain design by analysing the existing architectural material. In education these premises could be translated into objectives. All exercises ought to have such objectives. For instance, an assignment with a particular brief may focus on the problems associated with the asymmetrical axis. This should then be worked out in the design. That is how you build up the requisite knowledge.

After a while, the students will have processed all this architectural knowledge, enabling them to select their own

¹
Jan de Heer
(ed.), *Kleur en
Architectuur*
(Rotterdam,
1986).

combination of premises. Familiar with the premises, the problems and the material, they can then use that knowledge to pursue their own interpretations. And perhaps one day they will identify a premise themselves.

^{JM} I believe that the way the commission is interpreted in practice is important too. The design objectives will be far more dependent on the context. If you are commissioned to design a museum of architecture the objective extends beyond the architectural material to include the body that selects the architect. It is not just your interpretation of the design brief that matters, but also how you expect the board of such an institution to interpret this brief. You might decide against a single large space, and opt instead to house the institution's various functions in a number of different types of building. The end result will be a different kind of architecture.

It is about the will of the individual architect, about how far someone is prepared to take his work. Once I was involved in a second-year project at the academy in Rotterdam. They had initially approached John Körmeling to act as a supervisor, but he refused, describing the project objective as disgraceful. The objective was: 'How can I become just as famous as Le Corbusier.' I quite liked the objective, because it really opened things up. It enables you to draw up a brief and actually assess afterwards whether or not your students have been successful. Not at that particular moment in time of course, but whether or not they would in theory. In other words, the objective need not necessarily derive from the architectural material. It can have a social dimension as well.

The course teaches students to work with the tools of the trade. Yet the architect's role in society receives very little attention. Students have no idea what to do after graduation. I see this at the Individuele Subsidie Commissie Bouwkunst (Architectural Commission for Individual Subsidies), which processes grant applications from new architects. The applicants often aspire to little more than buying a computer and preparing a pamphlet to showcase their work. There is absolutely no sign of an objective. As soon as the educational safety net is removed, this giant no-man's land appears to open up. However, this no-man's land is full of professional architects and a constant flow of commissions. Education ought to address the way you conduct yourself within this environment. There is no need to learn about business management, but the ability to clearly formulate objectives on a project-by-project basis – which problems can be identified? – would be a start. Such an approach would make it a lot easier to undertake a new study.

^{CW} We were confronted with a similar deficiency when we were preparing to set up the Durand institute. We launched five different subjects, one of which we labelled 'design management', the role of design in society. This is where the client and user come in. It is not about the way the BNA (the Royal Institute

of Dutch Architects) works or the fact that there are contractors, but about how you explain your designs to the public. Delft does not do this. We are made to believe that you create a genuine simulation, with due emphasis on the social aspects. But this is not the case, as the school is simply too hermetic.

^{JM} What it boils down to is that you may be offering simulations – still the best approach – but that within these simulations you create artificial conditions that call for the formulation of objectives. For instance, you may set an assignment and omit the design brief or the urban planning simulation or only emphasise the cost dimension. By tweaking the reality of the simulation, by slightly shifting the emphasis in your role as a supervisor, you force the students to formulate objectives. That is exactly what happens in practice. And architecture theory plays a role in this process, because it is necessary to reflect on what details remain unchanged, what architectural material you are dealing with, how it is currently organised and how you might like to change this.

When I was teaching in Eindhoven, my initial approach to this was quite extreme. To give you an example: I would ask students to design Rietveld's red-and-blue chair. This turned out to be a terribly difficult assignment. It did not work on a didactic level. All the students would make improved versions, while that was not really the point.

^{CW} Tweaking the assignment, as you would in practice, often challenges your ideas about architecture. But that never happens in Delft. The assignments always follow on from ideas that are already circulating at the school. Too much is taken for granted. You are discouraged from interpreting the theory because the practical example is usually quite workable. On a programmatic level things are equally tame: a school here, a town hall there, some council housing, and so on. In my view, asking students to come up with a completely absurd programme would be quite a fruitful exercise.

^{OASE} What it boils down to then is that the simulation model, because of its tendency to take things for granted, does not encourage people to articulate their deliberations and decisions and is therefore incapable of generating theory. This can be avoided by tweaking the reality of the simulation. Moving away from a design project to an analytical project, the focus shifts from the architectural material itself to your interpretation of that material. For education, this would mean a shift towards research.

^{CW} That's right, but a special kind of research. As a matter of fact, plan analysis shouldn't really be seen as research. Research proper is the next stage, the so-called architectural study: how do you interpret the brief with the knowledge at your disposal? People working on their graduation projects

often start with typological, morphological and historical research. Six months on they produce the results and think they're done, whereas nothing has actually happened yet. They are unable to link the results of the research to their own design capacities. They don't see the point; they think it is just an exercise. In short, they are unable to formulate objectives that may generate research results that are useful to the design process.

JM What's worse, they often identify stipulations in order to achieve some kind of link between research and design. So they might say that the urban environment stipulates a particular building height. You end up with the most peculiar choices.

CW The research ends up legitimising the solution. Because the objectives are not made explicit, the research becomes normative. A contrast within the urban planning context, for instance, is always valued less than a perfect fit.

THEORY: INDIVIDUALISM AND HANDBOOKS

OASE We have talked about knowledge of buildings and the significance of theory. We are talking here about the way architectural material is organised in handbooks. Looking at the tradition of handbooks now it seems fair to say that the past 50 years have not produced any new handbooks, unless you would want to describe books such as Neufert² and the *New Metric Handbook*³ as such.

JM No, excellent as they are, they are certainly not handbooks. Handbooks are about more than just data and measures. But what I do see as an architectural handbook is something like *Architecturalia* by Oud.⁴ It does not feature a single drawing. The account sort of ambles from one detail to the next. Oud identifies the important issues and the level at which he makes decisions. A good example would be the staggered cornice at the curve in his housing project in Hoek van Holland. In his book, Oud describes the reasons for this staggered feature in very precise terms.

It is significant that Oud uses language rather than a drawing to explain such an architectural feature. It is the problem of individuality. Lacking the requisite resources, he cannot generalise the solution at that point. However, a detailed study of the old handbooks would provide plenty of formal resources. Explanation need not be verbal, as in Oud's case.

Modern architecture has done little to develop a terminology. For instance, Oud himself does not speak of a 'cornice' but of 'eaves'. When all you have are verbal resources you can only describe things literally. The word cornice opens up more possibilities. As a concept, independent of its historical connotations, it can offer a range of solutions.

This, then, is the importance of theory: the right word at the right time, allowing a solution to be seen in a wider context, as

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Ernst Neufert, *Architects' Data* (London, 1970), originally published as *Bauentwurfslehre. Handbuch für den Baufachmann, Bauherren, Lehrenden und Lernenden* in 1936.

3

David Adler (ed.), *New Metric Handbook: Planning and Design Data* (Burlington, MA, 1979).

4

J.J.P. Oud, *Architecturalia voor bouwheren en architecten* (The Hague, 1963).

more than a particular solution at a particular time. Otherwise you end up with the problem that a design by Oud is considered to be important, without anyone knowing why. People will end up seeing it as an individual solution, which of course it is not.

CW It is indeed peculiar that modern architecture has failed to develop a higher level of abstraction. Insofar as there are any modern architecture handbooks they refer to solutions by individual architects. So you might say: I made a Dudok door or Duiker eaves.

But the old handbooks do use terminology. There are different names for rows of five columns and rows of six. Such terminology is lacking in modern architecture, forcing us to resort to descriptions. Talking about architecture has thus become quite a laborious process.

The situation is different in music. You have the same terminology at your disposal whether you are discussing a piece by Stockhausen or one by Strauss.

Likewise, the absence of a conceptual framework is a serious problem in education.

JM Modern architecture refused to use the term cornice for eaves. All the old concepts were originally conceived and introduced because people were aiming for a single style, with set rules. Modern architecture abandoned this practice, which created a greater degree of individuality, and hence more freedom of choice. That is what Oud came up against. In my opinion, however, Oud's eaves can definitely be described as a cornice.

CW In education, the absence of a conceptual framework results in a kind of Montessori system. But I do not see why we cannot have a regular approach, you know, one that uses books.

JM And in that case it is not about reading one book and applying it. If you did that, any random book would do. There are so many different architectural theories that it would be much more interesting to teach why a particular book is significant. Schinkel's *Lehrbuch* is significant because it indicates, using a particular style of drawing, why a solution is or isn't good. When you are thinking about a particular architectural element – a column, say – you need to know it was Schinkel who formulated this particular approach to the problem. And that he did so in words as well as in drawings.

The style book is important, since it organises the architectural material in a particular way. It is not a question of applying all of these styles. That would be impossible, because far too expensive. So architecture theory is not just any old book, it is a whole series of books and their documentation of schematic plans and principles of organisation. But there is no need to start with Vitruvius, before moving on to Alberti and Palladio, and so on. That would be rather demoralising, I think. You need to understand the underlying ideas in all of

these books, so you can extend the sequence to *Delirious New York*. It is disgraceful that these books are not used in education. Tzonis uses some, but he takes a formalist approach.

CW There is no tradition of using handbooks – that is the problem. Before you know it, you stand accused of plagiarism. A lack of proper understanding also encourages copying. One of my final-year students is interested in Loos but is incapable of moving beyond Loos. Students often find it difficult to digest other architects' work.

OASE So the crux is an understanding of the architectural material, defined as the sum total of drawn, written and constructed material. The next step is adopting a particular position vis-à-vis that material.

JM . . . being able to determine.

OASE Of course there is always a certain implicit relationship vis-à-vis the architectural material. But it looks as if you reject such subconscious position-taking.

CW In education, yes, where it is not very productive because you cannot talk about it. If you cannot identify relationships with other things – whose merits we know – it becomes virtually impossible to talk about the work. You end up talking bullshit about whether the room is too big or too small. In fact, that is how most designs are explained. Here's the entrance, there's the exit. We are not presented with a story about the design, about the illustrations.

OASE So this is the big gaping hole?

JM / CW Absolutely. The huge gaping hole.

OASE Does this answer the question 'how do you learn to build'?

JM You learn to build from being able to use handbooks.

ARCHITECTURE: THE CURRENT SITUATION

OASE Does this also answer the question 'how do you learn about architecture'?

CW Joost once said that architecture is not a qualitative concept. Architecture constitutes the cultural dimension of buildings. You can teach someone how to construct buildings. Architecture is a continuation of this process.

JM I see architecture, first and foremost, as a discipline that is taught and practiced at an academic institution. Delft is not the only such institution, there are many more. In that respect

the situation is not dissimilar to other disciplines. You know what others, such as Colin Rowe, Peter Eisenman and John Hedjuk, are doing. Taking this as your starting point, you put together a programme. And – coming back to the current situation – this programme could or should then make a contribution to the field as a whole.

Delft is of course not the only place providing architectural education. There is the Cooper Union, the Stedelschule, the AA. You must aspire for your institution to have a certain standing among these as well. I believe it is fair to assume a certain degree of competition with other institutions. I think it should not be taken for granted that someone living in Rotterdam and wanting to study architecture will go to Delft. Why not Karlsruhe?

OASE The design school is one of a range of institutions that shape our architectural culture. The same happens in the media. How much influence do the media have?

JM I believe the schools still have the edge. At the end of the day this is where it all happens. The schools are extremely important for the evolution of ideas within the culture of architecture. And this process is not just driven by students, but also by lecturers. The media cannot show something unless it has actually been made. It was the same in the visual arts five years ago. All the innovative material came from the schools. It was plucked from the schools and displayed in the galleries, thus sidestepping the established arts institutions. Things have never been quite so extreme in architecture, but it comes close.

And then there is the issue of long-term opinion; the problem of oeuvre. The media have no say in this. It only emerges retrospectively. The process is so much slower. Initially, Oud received little appreciation, then a bit more, and now his star is slowly waning again, with Dudok the up-and-coming man. It results in a kind of constantly changing top ten. It all takes a really long time to crystallise. But that is not something you need to worry about now.

OASE If you are capable of clearly formulating objectives and one of those objectives is participating in architectural culture, then you should also be able to tackle the relevant problems and come up with the right designs.

JM Yes, but it is extremely difficult to get a proper sense of all of these aspects of architecture at the same time. A common experience in Eindhoven is that someone may be coming up with a new kind of architecture, but because he is unable to draw, it cannot be published. Everything must be in the right place.

Translated by Laura Vroomen