Chapter 2

Curricula for Architectural Education in the Common European Higher Education Area

The recent reforms in the content and the structure of School curricula, which have been made by various Schools of Architecture in the name of the convergence to the European policies have proved that in many cases the content of studies but also the strategies for its organization have come with interesting divergence and incompatibilities. Could it be possible that the debate on the type of degree awarded (Bachelor or Masters) has distanced us and made us drift and shift from the actual discussion on the content of studies and the basic principles that should underline their organization? It is relatively easy to observe that the accession of Schools to the proposed schema of the two degrees (Bachelor and Masters) is decided upon and filtered through fundamentally different attestations on architectural education, a fact which makes the critical recording of the various trends absolutely necessary and essential. Neither in a utopian pursuit of the ideal, nor in the perspective of the indirect imposition of some of these trends in the form of instruction or suggestion, but in the perspective of mapping which will allow or support the identification and the effective communication between Schools that share common principles in the ways they teach architecture.

Introduction to the Session

Panel: **Kees Doevendans,** Eindhoven, The Netherlands
Johan Verbeke, Brussels, Belgium
Alan Bridges, Glasgow, United Kingdom
Chair: **Richard Foqué,** Antwerp, Belgium

Discussion Group 1

Coordination by
James Horan, Dublin, Ireland
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A European Curriculum in Architecture
How to Organise and Manage the Knowledge of a Dynamic Subject

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Executive Summary

In this paper the authors want to introduce important key issues in relation to educational developments in Europe, which will be of importance when discussing an European Architectural Curriculum.

The authors start from the Hania 2001 statement and again stress the importance of variety and cultural difference in Europe in general and in architectural education especially.

Key issues of knowledge processes and innovation are introduced and discussed in relation to architectural processes. It is argued implicit knowledge plays an important role. Also the European tendency of a more intense focus of scientific processes in the field of Architecture is discussed. The authors feel that the activities and processes in the design studio themselves should adopt a more scientific way of working and thinking and develop their own scientific standards (peer review, communication and transfer of more explicit knowledge, ...). However, this subject should be approached very carefully.

In relation to research, the differences between value based research, method based research and instrumental research is introduced. Architectural research is placed in the context of the 'Knowledge based society' promoted by the European Commission. Especially the growing importance of 'Mode II'-knowledge is an important issue to keep in mind when developing architectural research and developing an architectural curriculum.

Networks of excellence and strong co-operations between Schools of Architecture become a necessity in the changing world of education. The paper gives two examples: the META-University, which develops 'joint masters', and the USO-BUILT-network, which created an international PhD-School. These kind of initiatives are seen as consequences of the (inevitable) introduction of the Anglo-Saxon-model (Bachelor-Master-structure). Related to this is the subject of flexibility, semesterisation and ECTS.

[1] The present article has been written by all three authors but was presented at the meeting in a shorter version by Kees Doevendans.

The concepts of modularization, key skills and learning styles seem to be well established.

Using the tension between academic and vocational orientation as well as technical/specialist and arts/generalist orientation, a matrix was proposed by several authors. The current paper argues that although this may be useful in structuring discussions, examples not fitting in the structure can be given.

The growing importance of digital media in the field is also shortly discussed.

Finally, the paper finishes with a list of key issues, which are important when developing a long term view for the development of School of Architecture.

Introduction

The subject of a common European Curriculum in Architecture has led us to a 'deconstruction' of the curricula of our individual schools and universities. Deconstruction is negative _nd positive, as it could be read as the synthesis of both the destruction as well as the re-construction of our curricula. Most of us are currently working on this process of transition/change.

Some of the important questions concerning this subject are: What is a European Curriculum of Architecture? What does Architecture mean? Does it include, for example, Urban Design? And does Architecture also include the technical engineering disciplines?

And what does Europe mean? Is Europe a fiction or a reality?

What will be deconstructed? And what is the Anglo-Saxon system we often refer to, nowadays? Does anybody know? Is it a myth? Is not only something that exists a manifold of interpretations? And do we, for whatever reasons, perhaps even fear the introduction of the Anglo-Saxon system?

How do we cope with the different types of schools in Architecture and Urbanism? Is it possible to create a kind of common kernel for a European curriculum, maybe even guarded or protected by the EAAE (European Association for Architectural Education) or the ENHSA (European Network of Heads of Schools of Architecture)?

How do we cope with the consequences of the Bologna en Sorbonne declarations?

Many of the thoughts in this contribution to the Meeting of Heads of Schools of Architecture (Hania, September 2002) were developed during meetings where the concepts of META-University and USO-Built were born, both initiatives are meant to meet the challenge of the new emerging European space for Education and Research.

In general we follow three main issues for the development of a curriculum:

- culture (of the school)
- structure (of the curriculum)
- content (of the curriculum).

The central idea is, that a curriculum means the organisation, management and transmission of knowledge and skills on a specific subject, in our case: Architecture.

This paper and the ideas it contains are intended to stimulate and provoke discussions during the 2002 Hania meeting. It should be regarded as 'work in progress'.

I Some Initial Points

In September 2001, the EAAE stated in Hania that it will actively collaborate in developing the ECTS-credit system in their schools and that the EAAE considers this system as the cornerstone towards mobility of students, modularity, flexibility in the curricula - necessary for the cultural, regional and pedagogical diversity it considers to be of large value for education in architecture in Europe (EAAE, 2001, p. 2 and appendix 1).

Also was stated that Architectural Education in Europe will always have a pluriform identity.

This means that no specific school can be as unique or 'holy' to have the model for a curriculum. Variety and difference is seen as important and even necessary to the field.

For a European curriculum we cannot take into account all systems in schools. This is simply too complicated, we will have to generalize and focus on the key issues. Which also means: everybody has to take some distance from the system of his own school or university in discussing this subject. Of course, we should also allow variety and differences in focus. And we will not fall into the trap of proposing one unique curriculum for Architecture.

Every school is unique and has its own well respected system, which is part of the identity of that school; but differentiation of schools, systems and models in the heart of a European curriculum on Architecture and Urbanism and differentiation can even be considered as the strength of Europe.

'Europe'

There is not one European tradition, or a single style, school, paradigm which can be pointed at as the root of a European curriculum. And what is, by the way, 'Europe'?

A European curriculum should take into account the different traditions, styles, histories, paradigms, in a similar way as Europe is determined by different traditions, styles, histories, cultures etc.

Still there is a recognisable European architectural heritage and also a recognisable historical concept of the European city, a city starting from the Polis, the elementary form of Western free society, which became to full growth in the Middle Ages. The Polis, also the place -according to the philosopher Hegel- afflicted with a fundamental problem: the tension between general interest and specific interest, a dilemma hardly to be solved.

'Europe', as it develops now, means a new phase in the development of Architectural Education. A new phase in the Polis. Maybe it is not a coincidence that the Network of Heads of Schools of Architecture takes position in Greece to reflect on a European Curriculum for Architecture (and we add: and Urbanism?). What is the quintessence of this new phase?

We could state that the essence of Europe is variety in all its forms. This is crucial and makes a difference with other cultures. There is the tension between universality and particularity. In pre-modern times freedom was located in our cities and regions. There was also the base of our identity. But during modernity freedom was made a universal principle and the western tradition was seen as a process of emancipation in which the individual subject was liberated from his traditional ties. Also the specific historic constellation, according to the Greeks the representation of a cosmical order, was robbed from its cosmic foundation, and the specific historical building collapsed. For some time

this foundation was replaced by the Christian belief in the Heavenly Jerusalem, but during the Enlightenment this foundation was pushed aside by pure reasoning. As pure, universal reason seemed to be too light for this foundation, the inner consciousness of man as the free subject he was, was the new source of his identity.

Now, in this time that we are thinking of the creation of a new European Curriculum in Architecture and Urbanism, we are confronted with the attempts also to pull down this last handhold. There is no identity that is transcending a specific context, all truth is particular, not general, not universal. And the idea that Western culture is a process of emancipation in which the subject frees itself from traditional freedom and makes his own individual freedom as his foundation and point of departure for reality, is rejected as a false illusion. Only postmodernism is still a form of emancipation: the 'emancipation of emancipation', a farewell to a way of thinking concentrating on the individual subject.

Europe is ontologically afflicted with the fundamental discussion of particularity and universality. This is part of Europe's identity. It is the struggle of the polis between specific and general interest. Do we all have our own interest and make our own identity, or do we have a joint identity and value system in which we all try to participate? (Local) Context seems to be an extremely important factor.

Hopefully Europe will not just develop as the free market, for which the style of 'managerialism' is fundamental (because this is the hero that rose at 'The End of History', the moment all social-economic systems, except the free market, died) and Europe will also not become the bureaucratic Europe. This would mean that the language of bench marking, exit- and output-criteria, Quality Assessment, Total Quality Management, etc. becomes our main language. On a national level, we are already facing daily the impact of managerialism on our education.

The theologian Richard H. Roberts has written an article on this subject, entitled 'The End of the university and the last academic?'. He quotes from an essay by Friedrich Bonhoeffer, asserting that:

'There are three fundamental attitudes which the life of the mind assumes with regard to reality: judgement, action and enjoyment (play and delight). In these attitudes man confronts in freedom the reality of which he himself forms part, and he thereby shows that he is a man.'

Richard Roberts states that we observe and analyse an imbalance: *judgement* has been expropriated by managerial *fiat; action* has been mechanised into the policy of meaningless circularities of 'Quality'; and *enjoyment* has become the casual pleasure of the 'receiver' or 'customer' who picks and chooses in the 'knowledge outlet' (Roberts, p. 89). He also says: 'University education is like beer: it can be 'real' or a synthetic *Ersatz,* a concocted simulacrum, and we need to relearn the distinction between the two.' (p. 88)

Managerialism has made our universities 'higher education outlets', 'prison houses of learning', 'factories of production' and so on. This means a clash with the real university (in the traditional sense), mainly because 'the relationship between individual and institution is radically changed when alien managerial models non-consensually reconfigure universities into 'higher-education outlets''.

II Deconstruction

The postmodern university

A European Curriculum in Architecture (and Urbanism) does mean a deconstruction of the unique curriculum of each of our schools, the curriculum which is one of the main elements for the identity of our different schools. Also a European Curriculum will lead to a mix of systems, content and qualifications. It seems to be a fragmented whole. Smith and Webster (1997) speak about the post-modern university as 'a multiplicity of differences'. This could be the characteristic of a European curriculum in Architecture and Urbanism.

'...different academics pursuing different knowledges, different teams of researchers combining and recombining to investigate shifting topics, different sorts of students following different courses, with different modes of study and different concerns among themselves, different employment arrangements of different types of staff -difference everywhere in this the postmodern, flexible accommodating university.' (Smith & Webster, 1997, p. 104)

In an article 'Back to the Future; the higher education curriculum in the 21st century' (from which article the quote above has been taken) David Bridges (2002) analyses some of the developments that have lead to this postmodern university. These developments are, on one side, applicable with regard to our individual schools, and, on the other hand also relevant to the European Educational Space and the European Curriculum for Architecture and Urbanism within this space.

Some of the boundaries which formerly gave definition to a university and to the students' experience, states Bridges, have been removed over the last decades. Such as:

The identity of place (universities have become large institutions scattered over different sites, sometimes even a region and are promoting Distance Education);

The identity of time (the idea of a tightly contained academic year of intense interaction broken by long periods of separation, has been changed by demands of part-time evening courses, short courses, day seminars in weekends and summer schools etc.);

The identity of the scholarly community (this identity has become extremely difficult because of the growth of institutions, their spread to multiple buildings and sites and more and more part time and short time staff contracts).

The identity of the student community (as students have more and more different educational programmes, study at different times of the day and the year, combine learning and working (dual systems), represent a wider span of ages and cultural backgrounds etc.

All these developments are also of importance for a European curriculum in Architecture and Urbanism. And these recent deconstructing developments have to be embedded in a larger deconstructive development of the Architectural discipline, by which we mean the fragmentation of this discipline during modernity. The architect has become almost a specialist between specialists. He is a kind of aesthetic specialist and his role as the integrating person is often replaced by a team of designers. The impression has emerged that the architect should be skilled in methods of Team Design and Communication. In some cases he is also the generalist with final responsibilities and covering all fields involved in the building process. In his speech of acceptance of the 2001 RIBA Gold Medal, Frank Gehry argued that computers will counter 'infantilisation and marginalisation'

of the architect in the construction process: 'I see a chance where the architect becomes more the responsible party in the equation ... a great opportunity for architects to become master-builders again.' But it will be clear that this assumption is not shared by all architects!

The organisation and management of knowledge

In his article Bridges concentrates on the subject of Knowledge, on what he refers to as 'The Construction and Organisation of Knowledge in the University Curriculum'. Bridges states: 'The higher education curriculum has become the site for a fascinating clash of epistemologies as well as values and educational and other priorities. (...) We are faced with some very practical as well as philosophically grounded questions as to what selection of knowledge should be represented in the university and how that should be constructed (epistemologically and from the perspective of learners). These in turn raise questions as to how this knowledge should be organised (institutionally and form the perspective of teachers) so as to provide more effectively the teaching and learning which that structure should support.'

These questions are, according to Bridges, extremely interesting in their own right, but 'there is a real opportunity for those who engage with this questions with them to affect the outcomes, since, unlike the school curriculum, which has been rested almost entirely into the hands of our political masters and mistresses, the university curriculum remains for the moment pluralistic and (with the important exception of courses carrying, for example, professional accreditation) self-determined at institutional level, though the demand for the 'bench marking' of degrees (...) poses a serious threat to this autonomy'.

Professional and scientific standards

It is clear that curricula in Architecture and Urbanism are faced with these kinds of questions in at least two different ways: the curriculum should meet professional standards, and the curriculum should also meet scientific requirements. We are benchmarked on a European level, for the professional standards there is the European Guideline. The scientific standard will become more and more important, and many of our schools and faculties experience the struggle for scientific recognition, which is of vital importance to generate the so necessary flow of funding. An exponent of this was seen with the EAAE-conference 'Research by Design' (Delft, NL, November 2000). As already mentioned, the categories of most European science programmes do not have any place for the field of Architecture and Urbanism. Nor are many people representing the field on scientific selection panels. Does the knowledge in these fields not play any role in the scientific world?

A central issue in the discussion on a European Curriculum is concerned with the type of Knowledge this curriculum consists of.

One research area in which architecture has been competitive, and arguably, a leader, is the development and application of Information and Computer Technologies (ICT) in design practice and design education. Researchers working in this field have found common cause with a range of engineering disciplines, to the mutual benefit of both.

Implicit and Explicit Knowledge

Knowledge itself has become a scientific subject. How do we manage and organise knowledge? These are important questions for the creation of a European Curriculum for Architecture and Urbanism.

Nonaka and Takeuchi (1995) studied the issue of Implicit and Explicit Knowledge and their interaction. Both explicit and implicit knowledge play a crucial role in the development of a field. Both influence and enforce each other. But if the focus becomes too much on one, then innovation becomes difficult. If a European Curriculum is just grounded in Implicit Knowledge we could say that this European Curriculum does not exist, it will remain 'implicit'. So a European Curriculum should also be research oriented.

This concept was extended by Cook and Brown who introduced the concept of 'knowing as action'. They state that 'tacit knowledge can not be turned into explicit, nor can explicit be turned into tacit'. It is the interaction between both at the moment knowledge is used which creates new knowledge, insight and skills.

However, implicit knowledge is an important part of the Architectural Curriculum. The Studio is often seen as a place of design as well as of research. It is seen as the core of the curriculum. Rightly, as education in Architecture and Urbanism is highly design oriented. But the Studio should not be made a false fortress. This happens when we concentrate all the education on the Studio, arguing that the Studio is also our scientific place to be, that Design is a type of research. However true this may be to some extent, it is also a false idea, as we neglect the necessity of research programs, the specific scientific types of communication and output criteria. We cannot neglect the regular bench marking-criteria and make pleas for positions of exception for architecture and urbanism. In the end this will be fatal to the discipline.

In the Masters-PhD-phase of our European Curriculum for Architecture and Urbanism, we need the right balance between design-oriented and research-driven. In an integrated Masters-PhD-phase, which we see as an important step for a European Curriculum, this balance can gradually move from an emphasis on Design in the Master-phase to an emphasis on Research in the PhD-phase. It should be made possible that the Design-part of the Master-phase is a part of a PhD-programme and PhD-thesis. In this sense, another position may be taken into account, arguing that scientific thinking is a special form of design thinking as was argued by Glanville (1997).

Of great importance is, that ENHSA and EAAE work on criteria and so the recognition of a Design Thesis at the PhD-level. Within the framework of the USO-Built-Graduate/research school a task force already worked on the formulation of quality criteria for an academic design thesis (and other design output). (See Archives on http:www.uso.tue.nl)

Studio

The tension between Implicit and Explicit Knowledge, is a very delicate discussion. There is the danger, that this discussion becomes polemic. On the one side, the Studio is protected as the place of implicit knowledge, on the other side studio is rejected, as it is a place where beliefs, attitudes, convictions are transfered from the teacher to the pupil in a way very similar to the master-aprentice relationship in old craftmanships. At the EAAE-conference on Architecture and Ethics this 'conviction' was made very explicit by Philip Boudon. He argued that one does not learn anything in the studio, and presented an alternative, Architecturology. But this Architecturology, grounded mostly in geometry (as the whole of modernity is grounded in geometry, guiding science), can be almost regarded as a symbolic attempt to make architecture scientific. Another example of such a symbolic scientification of Architecture and Urbanism is perhaps the Space-Syntax-method?

The type of polemic overfocus and concentration on the Studio has not been very fruitful. We cannot limit ourselves to tacit knowledge as the interaction between both implicit and explicit knowledge is crucial to innovation and knowledge development. Architecture may stem from the learned professions, the times have changed. We should avoid the polemic 'Studio - Science' by renaming the Studio a scientific laboratory. This is just semantics. It can be questioned if a presupposition like 'Research by Design' is helpful and does not masque the problem. The importance of the Studio is evident, and instead of polemic discussions - in order to become useful - we should discuss different types of knowledge that are vital to Architecture and Urbanism. This can be done, if we link the discussion to other scientific discourses, such as on the difference of Implicit and Explicit knowledge, Phronesis and Episteme, Hermeneutics and Empirical science, to understand and to explain, Phenomenology and Natural Sciences based Technology, etc. The activities and processes in the design studio themselves should adopt a more scientific way of working and thinking and develop their own scientific standards.

ICT

It is obvious that the Studio will change because of ICT. Does the Design Studio of the (near) future still contain drawing tables? Probably the studio will become mare and more a mix of traditional and modern, advanced tools, such as computer and lap top. As amplifiers of the intellect, computers have the potential to profoundly change architectural praxis and education. The proceedings of the past 20 annual conferences of ECAADE (Education in Computer Aided Design in Europe) show the increasing impact of ICT not only on how design education is carried out but also on the modes of delivery. (See ECAADE Digital Proceedings 1983-2000).

Increasingly, our graduates will be in demand to design virtual as well as real buildings. The theoretical and philosophical issues relating to virtuality will surely occupy central stage in architectural education.

The Department of Architecture and Building Science of the University of Strathclyde runs an experimental studio which take advantage of a real-time VR environment in which students, working remotely and on different machine platforms, can collaboratively design from within the virtual world theyare creating. (See J Petric et al, 2002)

Evidence from initiatives, such as that at the TU Eindhoven, where ICT becomes ubiquitous by giving every student a high specification laptop, shows that integration and collaboration in project work is greatly enhanced.

Also the deployment of multimedia and internet technologies offers wholly new ways of delivering education and provides the currency for the "knowledge economy". And the big issue of a sustainable built environment has to be central to our educational programme; there is some optimism that advances in the development in integrated computer-based modelling systems will help address this complex and important issue.

The Style of Architecture (and urbanism)

This leads us to the question of 'style'. But 'style' is not used here in the common architectural way. By 'style' we mean 'attitude' (scientific and/or artistic), 'drive', a 'configuration of preferences', 'set of values', the 'culture' of an organisation, also the scientific and professional culture of a specific discipline. A 'style' has to be distinguished from a paradigm; a paradigm is already a more settled disciplinary matrix, including specific

methods, ethics, etc. For example, modernity could be seen as a 'paradigm', postmodernism still as a style, a style with a preference for disorder (instead of order), the dynamic (instead of the static), spontaneity (instead of a preference for clear processes) etc. (See W.T. Jones). Sometimes schools of architecture are birthplaces of a new style because of the presence of a group of specific people, often well known architects, and in this way these schools gain a strong identity of place, time and scholarly community.

But not all schools can follow this strategy, just because they are large institutes with many students and having to deliver large amounts of professionals for common practice.

So, we will have to raise the question in general: does architecture have an own 'style'? Let us hereto take a look into the history of architecture.

Before the 18th / 19th century, architecture was a part of culture without demarcation, it formed a coalition with sculpture, drawing, etc. The style was artistic. There was no specific education. The architect was the fore man, the leader, but he was not a specialist. He was the one with some special capacities, someone who could give orders, was extremely able in reading, drawing or something else. But architecture was always a collective enterprise, although the products of architecture finally bore the name of the 'fore man'. Note that this collective enterprise didn't mean Team Work based on management or communication skills, 'culture' was the binding factor.

During the 18th and 19th century schools emerged, Polytechnics and Academies. Architecture became a profession. In the beginning architects were very well educated, which means: in an broad sense. But during the 20th century a more narrow education was established, the architect was even educated in Universities of Technology and taken apart from humanities. The architect became an illiterate. He grew up in de-alienation, amidst representatives of the sciences. He had to meet with these scientists and the engineers. This leads, says one of the general view points, to a weak position for the architectural discipline. From a general discipline to a very specialized discipline in the professional field - the architect complains he is becoming an esthetical advisor, and that is all. Concerning the scientific context architecture finally arrived in the Universities of Technology, they have to survive in this specific academic world and architects need recognition as scientist and researchers. But there are almost no doctorates, there is almost no research output, and this means: no money not the recognition the work and ideas deserve.

University of Architecture?

Architects had different style from the engineers. For this reason Tomas Taveira launched the idea of a 'University of Architecture'. We quote here from an article by Geoffrey Broadbent in 'Educating Architects':

'The most ambitious scheme for the future, however, seems to be that of Tomas Taveira, the Lisbon architect who seeks to set up a University of Architecture. He finds himself as Dean of Architecture in a Technical University surrounded by engineers who have their own immensely successful ways of thinking which they apply to various kinds of engineering. But architects have their ways of thinking too, which involve a firm rooting in culture and history; the obvious skills of drawing and designing; profound understanding of human values, namely spiritual, physiological, psychological, social; and the ability to 'juggle many balls at once' in the resolution of complex problems, fraught with ambiguities. They need a knowledge of many crafts, technologies, the ability to communicate with

specialists in many fields and so on. Thinking, in Taveira's view, can be applied with equal relevance to all the visual arts - to theatre in its very many aspects, to film, to television etc. So Taveira is trying to set up a University of Architecture in which all these fields are represented and feed directly off each other.' (Broadbent, p. 22)

How is such a University institutionalised? Is it just a large department within a University, or is it a separated and exclusive university? Is it really useful to separate it from the other sciences and professions? Do other engineering disciplines not have many of the same characteristics as architecture? We notice that more and more the engineering disciplines become design-oriented disciplines and put emphasis on the social and cultural embeddings of their products.

However, the separation of Architecture from the humanities is certainly a problem. Note that architecture by itself is never alienated from humanities, but that both Architecture and Urbanism got lost in the domain of the sciences and have to cope with their type of reasoning. As the way of reasoning of the modern sciences have as their characteristics: certainty and distance, evidence and clarity, generalisation, lawfulness etc.; in architecture another way of reasoning is found. A style of *reflective reasoning,* starting from involvement with the actual, wholeness instead of fragmentation, ethics instead of empirical regularities. According to Dalibor Vesely this type of reasoning has its roots in phenomenology. Maybe this style also becomes more actual in postmodernism again, with its emphasis on the particular instead of the general and universal.

Ethical dimension and social theory

Following the ideas of Dalibor Vesely: architecture has always had an ethical dimension. This dimension is inherent to architecture. And in spite of specialisation, architecture still has to cope with the wholeness of reality, with culture. So the architect still is partly a philosopher? Yes, we see many references to philosophy and social and cultural theory in Architecture. But at the same time it seems that the architect is just an illiterate philosopher, a dilettante, because he was not educated and cultivated in this discipline - referring to too many, sometimes very divergent philosophers at the same time instead of the concentration on one philosophical corpus. We see at present that the pure reflexive disciplines take this place. Historical and critical reflection substitutes the reflective dimension of architecture itself, and its reflection is performed by representatives of disciplines which are not designing in the sense that architecture does, constituted by scholars that do not have the affinity with design as *ars inviviendi.* The dilemma is however, that we cannot cultivate the architect as a professional philosopher, because we see 'philosophy' differently - not in the narrow sense of this term. We will have to educate him or her with some philosophical or reflective skills. Reflective reasoning should be an important component of architecture!

In his contribution 'Fractures and Breaks' Neil Leach pleads for a strong linkage between Architecture and Social and Critical Theory:

'The idea of a certain universality of theory, that one discipline has points in common with the theory of another, and hence that the theoretical discourse in one discipline can inform the theoretical discourse in another lies at the heart of an initiative set up at the University of Nottingham. The School of Architecture at the University of Nottingham has recently forged a link with the School of Critical Theory. 'Critical Theory' refers to the theory of criticism and is an umbrella term covering contemporary theoretical debates

in areas such as philosophy, gender studies, psychoanalysis, literature and other modes of cultural expression. The hybrid that has resulted from this link, a Master Course in 'Architecture and Critical Theory', is an innovatory venture that aims to promote a heightened awareness of architectural theory and set it within a broader theoretical context. The aim is to focus on the origin and nature of debates in contemporary society and to make connections between developments in architecture and other disciplines. The intention is to expose architects to a range of debates to which, traditionally, architecture has not been exposed, and to introduce architects to a range of thinkers who are not normally considered within the traditional architectural education - thinkers such as Adorno, Benjamin, Habermas, Foucault, Baudrillard, Derrida, Freud, Lacan, and so on.' (p. 28)

Neil Leach takes a different position from Taveira: no separation form other disciplines and the exclusiveness of an architectural discipline, style and attitude. As we shall see in the last section of this document, 'Social and Critical Theory' was some years ago an almost neglected part in the architectural curriculum. But today we see a growth of journals on the linkage of Architecture, Urbanism and Social and Critical Theory, and – apart from Nottingham- there are examples of schools that succeeded in the introduction of humanities, social theory etc. in their curriculum in a 'non-dilettante' way, for instance Sint Lucas in Brussels-Gent, and the department of Architecture and Building Sciences of the University of Strathclyde, Glasgow, who set up a specific unit Advanced Architectural Design within their Graduate School.

Also we could mention the seminars on phenomenology of Dalibor Vesely at the Department of Architecture of the University of Cambridge (however, it should be noted that according to Dalibor Vesely architects should always work from the studio, also in the case of social criticism and cultural reflection).

Types of research

Better than to become polemic to other disciplines, arguing for the exclusiveness of Architecture and Urbanism, we should differentiate between types of research relevant to our own discipline. We are not an island between other disciplines, the scientific research field itself is built of many islands. The philosopher J.F. Lyotard uses the image of an archipelago of islands. Every island is a research-island. Every island has not just its own type of research, but also its own language game (the Wittgenstein-concept).

Lyotard distinguishes as most important research questions, types of questions and language games:

- What do we have to do? (= questioning-prescriptive research; determining of goals)
- What are we able to do? (= questioning-descriptive research; knowledge of means)
- Look what we could do! (= research of imagination focussing at the artistic truth, concepts, simulations, scenario's, designs, scripts, etc.)

These types of research should not be mixed, they are different, they cannot be brought together into one system. 'We have to play the game of difference.' However, a problem is found in the communication inside the archipelago. For this reason we have to build bridges, or we would need boats to connect the islands.

State of the art in architectural research

The EAAE-conference Research and Architecture, Paris, July 2000, displayed the following state of the art within architectural research. The contributions could be summarized in three categories:

Value based research. Research starting from presuppositions like 'architecture is life, is pleasure, gives vital signs, makes the world better', etc. Research starting from transcendent human values (stated values, not hermeneutically interpreted from reality). Contributors saw architecture as an autonomous discipline, hardly communicative to other disciplines and often stated sentences containing 'me as an architect'. This means that the autonomy is mainly grounded upon their own subjectivity. Curious was that a large part of the North-American Ph.D.-research was based on this type of assumptions.

Method based research, with a strong reference to the dominating methodology of the natural sciences (empiricism, inductive or hypothetic deductive, and so on). This emphasis on methodology was certainly also an attempt to be taken seriously in the academic scientific world. From Germany there was an extremely polemic contribution, contributors challenged the (soft) architects. However, their contribution was not entirely convincing, because they used from the natural sciences borrowed ideas on methodology, but still had no research content.

Instrumental research, focussing on tools for design and research (measurement), tools especially for studio work and architectural practice (professional values as reference), instruments for trial and error and heuristic approaches, the studio seen as laboratory.

Let us shortly summarize this state of the art of architectural research. First, we see subjective value-based architectural research and architecture as an autonomous discipline. Secondly, the development of architectural tools, but without intentions, goals or aims; mostly practice-centered. Thirdly we find a strong method-oriented approach: to create an image of science is the most important issue; this approach is looking for communication with the sciences and to come with them on speaking terms. The danger here, however, is the introduction of a borrowed methodology.

All three domains of contribution touch a substantial part of architecture: values, methodology and heuristics. The types of research refer to three important ways of reflection in architecture:

- hermeneutical reflection (the German idealistic-phenomenological approach)
- methodological reflection (the Anglo-Saxon approach) (See Sarlemijn); and:
- professional reflection.

However, there was no coherence at the research-conference in Paris, the three domains were not linked, and each of them was presented in its own autonomy. From this perspective, it seems necessary to find a coherent concept.

Knowledge based society

Here we have put emphasis on the subject of research in Architecture and Urbanism, because research has to be a significant part of the European Curriculum of Architecture; also seen in the light of the emergence of the knowledge based society. Are Architecture and Urbanism ready to participate adequately in this society?

'The notion of the knowledge based society can be traced back at least to the work of

the sociologist Daniel Bell (1973), and has been central to the work of more recent theorists as Castells (1996). A common thread is the idea that codified knowledge, especially in the form of science and technological innovation, has become the key strategic resource in society, displacing control over manufacturing processes, which was the main strategic resource of an earlier era. This change is related to changes in the nature of products and production. In the words of one of the UK's contemporary guru's of the 'knowledge-driven economy', the centre of gravity of economies is shifting:

'The old economy was organised around physical, material and tangible assets and products. The old economy had a large service sector but it was largely organised to service physical products: processing paper, taking orders, managing production, selling, servicing and repairing. In the new economy more of the value of manufactured products will come from the software and intelligence that they embody, and more of what we consume will be in the form of services. Across all sectors the knowledge content of products and processes is rising.' (Leadbeater 2000, pp. 38-39)

According to proponents of the knowledge economy thesis, the creation of value increasingly derives from the intangible, symbolic qualities associated with goods and services, rather than their purely functional attributes. Hence, activities such as design, marketing and brand management have acquired a more central, strategic role. These changes have been accompanied by the creation of a new leading group in society, made up of those who create and distribute this knowledge, such as high level experts in science, engineering, design, finance, law, marketing and other fields.' (Griffiths, 2002, p. 2)

Although many aspects of the knowledge society or knowledge economy thesis have been challenged, according to Griffiths 'it has nevertheless stimulated a number of ideas about the nature of knowledge production and knowledge application that are of value to an analysis of the relationship between teaching and research in higher education.'

'Two themes in particular are worth lightening. The first concerns the sites in which, and the processes through which, knowledge generation occurs. (...) High level knowledge advance is no longer the preserve of the university, but now occurs increasingly in centres outside the conventional academic setting: in company research labs and R&D departments; in consultancy firms; in government sponsored research institutes; in independent think-tanks. This growing diversity of settings has been accompanied by shifts in how knowledge is created and applied. Processes of knowledge creation are now less tied to traditional disciplinary boundaries. There has also been an erosion of the devide between creators and users, as knowledge creation becomes more closely interwoven in to the activities of particular communities of practice. This trend is connected to a growing demand, from the government and the public at large, for the accountability of professionals and experts. This has led to a new emphasis on so-called 'evidence-based policy and practice' which first gathered force in the medical field but has become much more pervasive (Davies et al, 2000)' (Griffiths 2002, p. 3)

'These changes in patterns of knowledge creation and application have been conceptualised by Gibbons, Nowotny and others in terms of a distinction between 'mode 1' and 'mode 2' knowledge (Gibbons et al 1994; Nowotny et al 2000).

'The following table provides a summary of the many features of this distinction:

Mode 1 knowledge is defined as 'The complex of ideas, methods, values and norms that

has grown up to control the diffusion of the Newtonian model of science to more and more fields of enquiry and ensure its compliance with what is considered sound scientific practice'. By contrast, Mode 2 knowledge is 'knowledge production carried out in the context of application and marked by its: transdiciplinarity; heterogeneity; organisational heterarchy and transience; social accountability and reflexivity; and quality control which emphasizes context and use dependence.

Mode 1	Mode 2
segregated	integrated
university based	cross-disciplinary and transdisciplinary
discipline-based	
'pure'	sensitive to context of application
hypothesis-led	social robustness
deductive	messiness
concerned with truth and predictability	

'A second theme to highlight concerns the types of attribute or capability that are increasingly called for the context of a knowledge-based society. As the rate of knowledge generation increases, knowledge advance occurs through dialogue across traditional disciplinary boundaries, and processes of knowledge creation becomes more relatively less valuable as an attribute. Different capabilities are now at a premium. They include the ability to frame problems and define knowledge requirements; to access and make sense of knowledge derived form different places; to commission research; to critically assess the validity of knowledge and its relevance to practical contexts; to turn knowledge into understanding and judgment. In short, there is a shift of emphasis from knowledge acquisition to knowledge management'.

Research-led teaching

'Even if these themes have only partial validity, they would appear to have profound and wide-ranging implications for the nature of higher education. They imply new emphases with respect to what is taught, to whom is taught, how is taught, and when is taught. And, of many of these aspects of the higher education enterprise, they imply a need to reconsider the relationship between teaching and research.' (Griffiths 2002, p. 3)

According to Griffiths we should distinguish 'an externalised, product-driven notion of research, and a teacher-focused, information-transmission notion of teaching' from 'an internalised, process-driven notion of research, and a student-centred, conceptual-change notion of teaching'.

In the first conception research and teaching are 'two separate types of enterprise', as in the second conception 'the separation starts to vanish'. Both activities, teaching and research, are 'revealed as expressions of a common, more basic category: learning. (Brew and Boud 1995)'.

Griffiths has a preference for the second option, and we cannot fully distinguish if this choice has also been made to strengthen the research-position of the younger generation universities in UK (the old Polytechnics). The choice for the second option means an emphasis on general skills concerning research: critical thinking, problem solving, arguing, the finding and interpretation of information, statistics, etc, maybe also: Leadership? (see Richars N. Sweet). It will be clear that these kind of skills are more and more of importance in the context of the knowledge society. But the tendency should not lead to the denial of the necessity for knowledge production by PhD-research in order to construct a real 'body of knowledge'. This type of research should not disappear in rather vague concepts of 'research-led teaching'. We have to guarantee scientific knowledge production in architecture and urbanism. Students need to 'internalise' the scientific research attitudes during their education.

The Studio again

Nevertheless, the curricula of architecture and urbanism have a fantastic site where 'research' as a set of general skills can be taught: the studio. According to Donald Schön 'studio working (...) seems to be a 'reflection in action', indeed 'a kind of on-the-spot-research' conducted within the very 'media' of architecture itself. (...) Architectural design is not simply a matter of solving problems. It is a question, first of all, of finding what the problems actually are. Architectural students, says Schön, constantly 'need to educate themselves to a new competence when they don't yet know what it is they need to learn.' So unlike other kinds of students, they must therefore take a plunge into doing before they know what to do. (Broadbent, p. 23)

Schön sees the Design Studio 'as the very model for education in all the professions, including medicine, law and even business. Just like architecture these professionals have to deal with: 'complexity, uncertainty, uniqueness and value-conflict'. They all have to learn, understand and incorporate material from the applied science which themselves are constantly developing. Indeed, such professionals all have to integrate their methods of working with what Schön calls 'reflection in action''.' (Broadbent, p. 22)

The studio as the place for teaching and learning research skills for the learned professions. Just for the learned professions? The late Herbert Simon, one of the few philosophers to address the complex issue of design, said 'Design is the core of all professional education; it is the principal work that distinguishes the professions from the sciences. The professional schools will reassume their professional responsibilities just to the degree where they can discover a science of design, a body of intellectually tough, analytic, partly formalizable, partly empirical, teachable doctrine about the design process. (Simon, 1968)

In a contribution to a publication about future developments in the social domain of postmodern society the Dutch sociologist Anton Zijderveld points at the importance of a place where students can work independently, supervised by coaches and not by pedant didactic teachers at 'concrete projects to solve concrete problems, and following concrete goals'. This process is of great importance, in order that the student can experience 'meaning' in a 'postmodern, unlimited, decentralised and globalised world'. Zijderveld does not see the Humboldt-university of the 19th Century as the model for academic teaching, but the studio of the Bauhaus. So the studio, also for academic aims! Zijderveld does not plead for a return to 'old professionalism', he wants a 'realistic craftmanship' linked to an ethics of responsibility ('Verantwortungsethik') focussing at the 'demand of the day' ('Forderung des Tages') (Weber, Durkheim).

Evaluation

It seems to be necessary to re-think the Studio taking its postmodern context as a point of departure. Important elements of this context are:

Giving the student a sense of meaning in an 'unlimited, de-centralised, globalised world' by focussing at concrete projects and confront the students with an ethics of responsibility, for the university should 'live in truth'. (Havel, see Roberts 2002, p. 89)

The development of a 'new professionalism', a realistic type of craftmanship to resist the strong tendency of de-professionalisation, because of 'the emergence of bureaucratic and market-based forms of structuring work', leading to a loss of professionalism 'as the occupational control of work' and also the decay of a professional tradition.

Networks of Excellence

However important the Studio may be, the Studio cannot be the panacea.

We will have to reflect very critically on the place of the studio in the production of knowledge (the 'research by design'-assumption), also seen in relation to the 'degradation' of the traditional university, (according to the model of Van Humboldt, the research-driven university) as in the knowledge-society 'production of knowledge' (research) is not the privilege of the university anymore. 'Networks of excellence', being cooperations of several type of institutions, are important in this respect. (In the PhD-Graduate school USO-Built an attempt has been made to establish such a network, including the disciplines of Architecture, Urbanism and Building Technology.)

It is important that we define the subjects of our research, and define research programmes that will be part of our European Curriculum in Architecture and Urbanism. This is the only way to manage this curriculum as a construction and organisation of knowledge. The PhD-level will influence positively the Masters-phase. Not only a European Educational space is emerging, also a new Research space. We can point, for example, at the call for proposals as part of the 6th Framework- programme for Networks of Excellence. Do Architectural Schools know that this is happening? We hope so!

III Architectural Education

In Europe a new educational space is developing. The following issues seem to be of crucial importance.

First, implementation of the Bologna- declaration (following the Sorbonne declaration, and followed by the Prague declaration) is an important step in the creation of this new educational space.

Also the increase of student-exchanges between universities and schools is a major factor in the creation of this space; for this we need flexible curricula and modularisation.

Thirdly, a new European research space is emerging together with the new educational space (6th Framework: Networks, Centres of Excellence). Architecture and Urbanism should find their place in the European Space of Research. This however is difficult, as the categories of, for instance, the 6th Framework are not very open to fields such as Architecture and Urbanism. We are just the 'Other engineering sciences', a miscellaneous category. We should all make efforts to change this, probably in collaboration with other organisations, for example the Association of European Schools of Planning (AESOP). Our

joint mission then is - now the discussions for the next European framework programme have already started- to put architecture and planning on the research agenda of this next (7th) Framework-programme.

Then, fourth, the new European Curriculum will be structured according to the Bachelor-Master-PhD-structure. Yes, but do we know what this system is? Is it clear what the levels of Undergraduate, Graduate and Postgraduate mean? How are final terms and core qualifications for the Bachelor, Masters and PhD defined and how can we agree on them?

Let us limit ourselves: for a European Curriculum in Architecture (and Urbanism) we should focus on the Master-phase; for research on the PhD-phase. The Bachelors is to the individual schools. Or do we also need end-qualifications for the Bachelors-phase, because we can expect that a lot of student will become mobile after the Bachelor-phase and want to continue their study at another school?

For the PhD-stage we need research schools or PhD-Graduate schools in architecture and urbanism, network-schools, like the emerging research school USO-Built (http://www.uso.tue.nl). This brings us to the scientific character of Architecture and Urbanism.

The PhD-schools should always be international, to strengthen the position of research-activities and stimulate multi-disciplinary and multi-cultural approaches, essential for a European PhD-curriculum. For the recognition of these types of education there is an important role for EAAE and ENHSA, for they can legitimise these activities. These PhD-schools will also enable the research community to gain critical mass for research groups.

All schools should have criteria that students from other schools (Bachelors), intending to enter a Master-stage, should meet before entrance; limited homologation should be part of the Master entrance phase. How will the accreditation and recognition of Bachelor-degrees be arranged?

All schools should apply the ECTS-system for mutual insight in curricula and recognition of degrees and modules.

- The Bachelor-phase is at least 180 ECTS.
- 40 - 50% of all courses are Design Studios and Project Based Learning-Modules.
- The Master-phase is at least 120 ECTS in post-bachelor-education.
- The Bachelor and the Masters can be a BArch and M Arch as well as a BSc or MSc.

Sometimes the Bachelor- and the Master-stage can be followed by Professional Masters in specific areas. Are we sure we want to continue this type of Masters? Or do we reserve the name Masters just for the 4th and 5th year after the bachelor-phase?

The Bachelor-phase is offer-driven, the Master-phase is demand-driven. This means: the Bachelor-phase has a curriculum that is almost completely compulsary for all students, while in the Master-stage there are a lot of optional courses and specific specialisations. 'Optional courses are an opportunity for students to widen their horizon in the field (breadth) or strengthen their understanding in a chosen area (depth). Optional courses allow more flexibility on the course and may also include opportunities to travel, practice or attend classes in other related disciplines.'

Joint Masters is an important new development and are structural to a European Curriculum in Architecture. Joint Masters are joint curricula of a network of schools. Students have one home university, but also take offers from curricula of other schools.

Joint Masters lead to the diploma of the home university plus a Joint Masters-certificate issued by the international network partners and need mutual agreements of schools. As an example we take the so called META-University, an initiative of TU Eindhoven, NL, adopted by EAAE (see below). Also the European Association of Universities started a Joint Masters-project. This is also very high on the agenda of the European Commission.

Entrance to the professional field is in the care of professional organisations or ministerial rules (professional requirements). It is not the care of schools and universities. However: 'The involvement of the professional organisations in education varies from total control (UK) to no involvement (Spain).' (Worthington, p. 34). Total control should be rejected because of academic freedom. So the RIBA-model for accreditation of schools is not the model we want to follow. Nevertheless this RIBA-accreditation is for some schools outside UK, mainly in Eastern Europe and also South-Africa, an important reference. Maybe ENHSA can take over such an accreditation?

Schools and universities can take professional requirements into account for the content of their curriculum, but these requirements are hardly of interest of a European curriculum. On a regional level communication with professional organisations is recommended and even necessary.

Three types of architectural education can be distinguished:

- The architect as professional. (Bachelor + Master of Architecture)
- The architect as professional to figure as academic professional. (Bachelors + Master of Art or Science)
- The architect as scientific researcher and designer. (Bachelors + Master of Art or Science + PhD)

A European curriculum for student exchanges needs agreements on systems and rosters, not to make one coherent curriculum, but to make flexibility possible and arrange necessary practicalities.

Joint Masters are also the vehicle for peer reviews and quality assessment.

Necessary are Core Qualifications for Bachelor and Master, an example is given in the annex of this paper. All schools will have to make their own interpretation, elaboration and implementation.

META-University

META-University is an initiative to improve international relations and to form a network of exchanges between students and staff of Universities and Design Schools with departments of Architecture, Building and Planning. The META-University is a network of universities and design schools. The schools agree to offer part of their existing activities in the form of international design workshops and theoretical modules open to the students in all schools of the network. This can be achieved by using a common web-site as a way to make the offer known. However, it is important to emphasize that META-University is not a virtual university, all the workshops and courses take place in 'real space' on the locations of the members universities and under their full control. Staff and students also meet each other in 'real space'. This concept of a META-University is founded on the conviction that, although modern communication offers invaluable new perspectives for e-learning, education on line, etc. nothing can replace real experience and real contacts. In this concept the web-site is just a tool for communication, for

assembling the different offers and for exploring areas of common concern. The aim is to make the best of both the shared interests and the individual qualities of the member schools and make appointments about the roster of the offerings, the recognition of modules in terms of ECTS, the language of teaching ('International English'), and so on.

In fact, the META-University is the creation of a European Curriculum in Architecture. At this moment there is a pilot group of TU Eindhoven, University of Strathclyde, Sint Lucas Architecture Brussels, Chalmers University Göteborg, University of Rome, University of Warsaw and the Bauhaus-University, Weimar.

A main issue is the formation of Joint Masters-programmes in Sustainable Design, Urban Morphology and Critical Theory, Advanced Architectural Design, Information Design and Urban Renewal.

Networks connecting European Universities with universities and design schools in the United States, in Asia and South-America are in preparation.

IV Contents of a European Curriculum for Architecture

Now we come to the content of a European Curriculum for Architecture, we have to stress the importance of some tensions or forces at work regarding this curriculum.

Firstly, some remarks on the subject of the Curriculum. However, also the subject is in deconstruction. Bridges mentions some of the forces to deconstruct that subject, such as:

- the modularisation of the curriculum
- the cross-curricular key skills movement
- the learning through experience movement and the shift of the seat of learning outside the academy
- the anarchic potential of web-based learning.

Finally Bridges makes a plea for the reaffirmation of the subject as the academic and organisational identity.

The first three of these developments will be focussed on very shortly.

a) Modularisation of the curriculum

This term refers to the creation of small units of knowledge to facilitate 'more flexible patterns of study, allowing students to accumulate 'credit' for courses successfully completed over a period of time which suited their personal circumstances and, by extension, to assemble credit for modules taken at different institutions. There are then three ingredients to this disassembly of traditional patterns of learning supported by the 'credit' revolution:

- the taking apart of traditional subjects as the epistemological units of study;
- the taking apart of the three year undergraduate course as the chronological unit of study; and
- the taking apart of the single university as the topographical location of the unit of study.'

The modularisation, states Bridges (2000), 'opens opportunities for the expression of two

different educational principles. First it renders possible a more student-centered curriculum, i.e. (within certain bounds) it allows students to assemble a degree- programme which fits their interests and aspirations. (...) But the same organisational structure can also satisfy a different social imperative - the expectation (...) that university programmes might serve more directly the needs of employers.'

It becomes possible to create 'tailored degrees' to prepare students for specific professional, scientific and management roles. Programmes also that cross boundaries of subject departments and faculty structures.

However, the effects of modularization on staff are not always so positive. Tony Rich and Clive Scott describe how 'one of the general features of the modularization / semesterization process is a feeling of alienation or dispossession (among staff).'

Bridges concludes: 'A number of very different considerations continue to restrict the flexibility on offer to students. These include:

- the need to fulfil the requirements of professional bodies for the accreditation of programmes as a professional qualification;
- the desire to build consecutiveness and progression into the study of a particular subject, and hence the need to make the study of x a prerequisite of the study of y; and
- the desire of heads of departments to protect income streams and hence their inclination to place disincentives and barriers in the way of student choices.'

b) Focus on key skills

'A second current of change in higher education runs across the first and adds to the disturbance of the nature and role of the traditional subject and its institutionalised expression in the department. This is the demand for what has variously been identified as transferable skills, cross-circular skills, core skills and key skills (...)', such as (after Dearing):

- communication skills
- numeracy
- the use of information technology
- learning how to learn. (...)

We believe that these key skills are relevant throughout life, not simply in employment... All institutions of higher education should aim for student achievement in key skills... to become an outcome of all programmes.'

The emphasis on general key skills include also:

'an attempt to draw attention to and develop some of the more generic capacities which underlie traditional university education (e.g. critical thinking and problem solving) and which are prominent in what employers expect or are looking for in a graduate employee;

a fresh emphasis on what might be called the interpersonal dimensions of working in an academic as well as an employment context (e.g. on team working and oral as well as written communication and presentational skills and the development of personal confidence in social situations);

an understanding of 'the world of work', of the way businesses function and of how knowledge can be applied in these settings (which leads of course to pressure for the

inclusion of work experience as part of undergraduate programmes (...); and

the establishment of basic skills which, it is claimed, any of today's entrants to higher education lack (numeracy and basic writing skills as well as competence in the use of information technology).'

The question Bridges raises is: do we need special skill training centers? Or, for architectural education: can we teach all these skills as part of studio work and project based learning, so that the integration of skills and subject is guaranteed?

But, on the other hand: is the remark that design is the summary or synthesis of all necessary skills not too simple?

c) Learning from experience

Learning from experience means for Bridges 'the incorporation of experience-based learning (including work-based) learning as a part of the university curriculum (...)'.

This subject is presently gaining importance. Not just because of new types of learning, such as Problem-Based and Project-Based Learning. Architectural Education does not have problems with this kind of teaching, because of its experience with studio work, which is a type of project based learning. But there is also a growing agreement in Europe to recognise capabilities and competencies earned during periods of work.

So new types of education emerge, such as Dual Systems, where students can follow supervised projects in practice.

But: 'To what extent is this experience integrated with, or separate from, mainstream teaching? How far can it take the place of other forms of learning, and at what price? How is quality assured in off-campus provision (...)? What is the status of the off-campus mentors of this experience and how are they rewarded. How far can the standard university timetable be adjusted to facilitate this kind of learning?'

Or, do we really think that, again, we can solve these problems in the Studio?

V Different types of Curricula

The curricula of Schools and Universities have different accents. There is a permanent tension between generalisation and specialisation, between a professional oriented attitude to a scientific oriented attitude.

The tension and balance between generalisation and specialisation is an important issue. The changes in curricula are often attempts to restore the balance, because one of the dimensions has become dominant. Generalisation may lead to an emphasis on general skills, and a wide range of disciplines and variety of content in the curriculum. Specialisation on just architecture may lead to a very limited scope of the student.

The balance of specialisation and generalisation is also a division of these dimensions over the different years of the curriculum. In terms of the Bachelor - Master-structure: is the Bachelor the general part of the curriculum and the Master-phase the specialist part? Does the student first have to get experiences in general key skills (also skills from a scientific side, academic values, etc.), to be applied in a specialist way later on? Or is it the other way around, as a student needs to specialise first, to have a background that makes it later possible for him of her to get involved in more general questions?

In the final sessions of the EAAE-conference in Plymouth, UK (Architecture and Engineering. Teaching for a Multidisciplinary Practice, 1999) Constantin Spiridonidis spoke about two models (he called them paradigms) of curricula:

Model 1: you start with breadth and synthesis, followed by specialization;
Model 2: you start to specialize and tries to synthesize and integrate afterwards.

At the Plymouth-conference examples of both models were shown.

These are very rough models. Marvin Malecha referred in one of his contributions to a Hania-Meeting to the insights of the philosopher A.N. Whitehead. In Whitehead's 'Aims of Education ' an essential side of education is explained as 'a cycle of romance, specialisation and generalisation depending on education and joy in the act of learning, quickly followed by an immersion in the specialisation of a discipline which then together provided generalisation of the ability to make greater observations. (...) The iterative nature of this cycle reflected that generalisation was the result of specialisation and it stimulated romance with a discipline (...)'

Based on these views, at the Technical University of Eindhoven another model was implemented, built up like an 'X'. In the first year a broad range of disciplines is taught: orientation, generalisation.

In the second year specialisation (depth) is introduced, in one of the disciplines, still combined with some general courses, and in the third year specialisation is central in the discipline chosen (depth, concentration).

The fourth year is concerned with a focus on generalisation again by letting the students from different disciplines cooperate in multidisciplinary teams (Team Work, Team Design). The essential idea behind this is that students' cooperation is not based on just general skills, but mainly on their specialisation. In this year also time for a practical placement is reserved. In the fifth year: specialisation and generalisation combined in the final project, which means that the problem to be solved has a specialist core, but clearly a multidisciplinary context, and also supervisors from other disciplines in the exam committee.

It is clear that these models can only be valid and realised if the five year curriculum is seen as a unity. Nevertheless, Bachelor as well as Master-phases will always on their own be coloured in terms of specialisation or generalisation.

Another tension or bias is between a professional or scientific orientation.

In his report 'Architecture and Town Planning Education in the Netherlands: A European Comparison' John Worthington (1995) makes two divisions under which the study of architectural education can be grouped. 'These are cross-European categories and not country specific'. (p. 20)

'The first division is between academic and research-based institutions (education) and vocationally-based (training) institutions. (...) Schools of architecture can also be grouped for their emphasis on either a technical or arts/humanities based education.'

The two divisions lead to the following matrix:

academic	**vocational**	
		technical
		arts

In his study Worthington examined European curricula 'for full undergraduate courses, first with regard to the total contact-hours as allocated to different areas of study, an then in terms of:

- breadth, depth of content;
- options and flexibility within the course;
- specialisation routes during the study;
- research and written requirements;
- integration with practice, other disciplines, years, taught and studio courses.'

One of the conclusions that Worthington mentions, is that 'depth in subject area is more prevalent in the academic and technical schools compared with the academic and humanities-based schools, where a wider range of subjects is taught.'

'Academic and vocational distinguishes the difference of objective in education (Universities) and training (Institutes and Academies). In schools with an academic focus, there is normally a greater emphasis on research and educating individuals, who may not all become design architects as such. Whereas at schools offering vocational focus the interest is in training design professionals. (...)

In a division of technical and arts/humanities based content, technical refers to the difference between greater engineering and science weighting in the curricula, and humanities to a more arts-based education.'

This leads to a specification of the matrix:

academic	**vocational**	
Design Project and Technology	Practical understanding is central	**technical / specialist**
Design project and Theory	Design is central	**arts / generalist**

However, we doubt if this matrix shows a useful scheme. For example, the focus of the faculty of Architecture, Building and Planning of the Technical University Eindhoven combined a technical focus with a wide range of disciplines taught. Students were taught as broad educated specialist in architecture, building and planning. Another example contradicting this matrix is found at the Sint-Lucas school of Architecture in Brussels and

Ghent (Belgium). They start from a more generalist view, but the curriculum clearly contains several highly specialised courses.

For the comparison of the content of curricula general areas of study are grouped in 14 categories and five main areas: (See also the Questionnaire of ENHSA distributed in advance of the ENHSA-meeting.)

A Basic Background Subjects
- History and Theory
- Supporting Social Sciences
- Basic Sciences

B Building Construction and Process
- Building Physics, Construction and Science
- Building Services
- Construction Economics, Management and Law

C Understanding the Surroundings
- Urban ad Environment Studies
- Topography, surveying and recording

D Project Preparation and Design
- Presentation Techniques
- Architectural Design

E Complementary studies
- Conservation
- Interior Design
- Research and Written Dissertation
- Optional Courses

If we summarise the hours of the different categories to the main categories and we determine the percentage of the main categories on the total of curriculum hours, then we get the following scheme:

academic	**vocational**	
D: 38% B: 26% A: 15% E: 14% C: 6%	D: 47 % B: 25 % A: 15 % E: 8% C: 5%	*technical*
D: 40% B: 30% A: 22% C: 9% E: -	D: 49% B: 24% A: 19% C: 6% E: 2 %	*arts*

This means that in schools with a vocational focus 10% more time is spent on design, but in general the differences are hardly of importance. Does this perhaps suggest that implicitly we already have a European Curriculum of Architecture?

Evaluation criteria

In a peer review session the following points (called 'Professional expectations'), the following were identified to be of value for schools to produce high-quality architects:

a Time to reflect
b Practice and criticism
c Urban Design in the Curriculum
d Practical experience both in the office and on site
e Exposure of 'real' problems
f The deeper understanding of architectural practice.
g Provide a basis for specialisation and continuous learning.

However, it may be necessary to add some 'scientific expectations' to these 'professional expectations'.

Strengths and weaknesses

Also some indicators were formulated, 'five kinds of relations that could be applied to indicate the strengths and weaknesses of schools against what they (= the Peer Group) considered essential for architectural education':

- Relation between studio work (projects, field work) and taught courses (facts, theory) in the total study.
- Relation between school and the profession.
- Relation between the school and the local community.
- Relationship between basic, mainly compulsory, courses and optional lines of study.
- Relations between schools and practices.

This list could be enlarged easily. And, as it perhaps is clear for the Peer Group that the strength of a school is always found in an existing and positive relation on all of the five points, this clarity could be discussed. Also we have to notice that different strategies are possible. Maybe a weak point is of greater importance for a school than the strong points. The weak points are part of a school's identity. So, do not just focus on the strong points (to make them stronger by introducing an accumulation of policy on this point) and do not try to turn weak points into strong points to conform your school to other schools. 'Make your weak points as they are strong points!'

VI List of Action Points

Instead of a conclusion, we would like to summarise above lines of discussion with a short list of subjects that might be of importance in further discussions on the (nearby) future of European curricula and education of architects and planners. The issues mentioned in the list also refer to points in which action will have to be taken by individual schools or cooperating networks.

Admission requirements

Core-Qualifications Bachelors and Masters

Common Kernel of the Architectural Curriculum

Key Skills

Flexibility offered
Specialisation - Generalisation
Professional and scientific standards / expectations / evaluation criteria
Modularisation of the curriculum
Typology of Schools
Studio: Educational and Research Philosophy
Social / Critical Theory and Architecture / Ethics
Joint Masters-strategy
PhD-Network-Strategy
Types of architectural research - future developments
Teaching and Research
7th Framework Discussion
Quality control and accreditation

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Appendix 1: EAAE Hania Statement 2001

1. The studies leading to the diploma of architecture which gives access to the profession of an architect, should be minimum 5 years of 300 ECTS credit points leading to graduate level ('masters'), in order to meet the achievements listed in the above mentioned documents 1, 2, 3.
2. Following a comparable but flexible qualification framework each school may decide to structure their curriculum as a 5-years integrated (i.e. unbroken) programme or subdivided in two cycles (3 + 2 years or 180 ECTS + 120 ECTS credit points), in which case the first cycle can not give access to the profession of an architect.
3. EAAE will actively collaborate in developing the ECTS-credit system in their schools and considers this system as the keystone towards mobility of students, modularity, flexibility in the curricula, necessary for the cultural, regional and pedagogical diversity they consider to be invaluable for education in architecture in Europe.
4. EAAE is willing to take part in the development of a quality assurance and assessment system tailored to the needs of architectural education and respecting its diversity. With respect tot this participation it should be made clear that it refers to the 'academic' assessment of the educational programmes by means of a peer review and not to the 'professional/governmental' assessment of the diploma leading to accreditation and the validation by the professional/governmental bodies of the member states. The EAAE will

install a representative committee at European level and will present its result and proposals regarding the evaluation of the two cycles (in both hypothesis mentioned sub 2) before the end of the year 2002.

The Heads of Schools underline their commitment to further elaborate and contribute to the development of the European Higher Education Area.

Appendix 2: Example of (general) Core Qualifications for Bachelor and Masters, translation of Core Qualifications in Prikkelen, Presteren, Profileren, final report of the Dutch Commission for Accreditation Higher Education (Commission Franssen), september 2001

Core qualities for University Programs leading towards the diplomas of BSc and MSc

1. The BSc program

A BSc program incorporates academic skills, scientific domain knowledge, and a number of academically relevant courses of choice.

1.1. Academic Skills

- Ability to logical reasoning
- Ability to judge and to form founded opinions
- Ability to communicate

1.2. Scientific domain knowledge

- 1/4 of ECTS devoted to the chosen major
- 1/4 of ECTS devoted to major-related disciplines
- 1/4 of ECTS devoted to academic core subjects
- 1/4 of ECTS as freely chosen courses

1.3. The Major

Majors are formed from the course offer of the home university. They should be sections of recognised scientific or technology disciplines, such as political sciences and international relationships, economy and management, natural scinces, history, etc, or combinations of such disciplines (life sciences, social sciences, language and cultural sciences).

After the student has completed the BSc program he/she

- Understands foundations, history, and structure of the chosen major, as well as its relationships with other disciplines;
- Is knowledgeable on the main elements and theory of the chosen major;
- Has the ability to use the major domain creatively.

1.4. Courses of Choice

So-called free courses should be taken from the following categorories:

- Academic core subjects;
- Scientific domain knowledge;
- Domain specific and application oriented courses, such as management, pedagogy, political sciences, technical physics, etc.;
- Courses in the performing arts: music, theatre, painting, sculpture, etc

1.5. Personal Curriculum

Students desiring entrance to the MSc program are asked to present a detailed curriculum of followed courses and the ECTS earned with each course in order to check adherence to the program above.

2. The MSc program

The University MSc program produces academics who are qualified to do scientific research, or to perform an academic profession.

2.1. Academic Skills

The research-oriented program focuses on deepening of knowledge and research in a specific academic knowledge domain of research or design.

More profession-oriented MSc programs strive towards deepening of knowledge and extension of skills towards a certain academic professions, such as physician, notary, engineer, etc.

Four different core qualifications may be distinguished:

- Intellectual development and expansion;
- An inquisitive and critical mindset;
- Domain knowledge;
- Multidisciplinary skills and insight.

2.2. Intellectual development and expansion

This process includes a number of aspects:

- Logical reasoning;
- Handling the paradigms of the domain;
- Developing logically founded opinions in the scientific debate;
- Reflection on personal actions and thinking;
- Integration of ethical, normative and expressive trains of thought in science;
- Communication with colleagues and others on problem solving, leading to active learning processes;
- Handling complex situations, and pass a well-founded judgement in the absence of complete data;
- Debating developments in the academic domain.

2.3. The Inquisitive Mind

An inquisitive and critical mindset includes:

- Be observant;
- Have a critical attitude and be original;
- Be independent in choosing the direction of knowledge expansion, of performing research, in professional practise, in choosing a personal niche in society;
- Enjoy the attitude of lifelong learning.

2.4. Domain Knowledge

The required domain knowledge consists of the following elements:

- Possessing the newest knowledge of the domain;
- Understanding the structure of the domain, the relationships among domain sections, as well as with other domains of science and technology;
- Follow and interpret the route of (changes in) truth finding and theory development;

- Application of methods and technologies in independent research, and using the results for the development of advanced practical solutions;
- Deliver an original addition to domain knowledge in one or more sections of the domain, and passing the master-test of this new knowledge;
- Having shown originality and creativity in the handling of the domain;
- Possessing the required domain-specific skills, such as designing, researching, analysing, diagnosing, etc

2.5. Multidisciplinary Skills and Insight

Multidisciplinary skills and insight are needed to recognize the limits of the domain. This includes:

- Understanding and interpreting bordering domains;
- Placing own research in a multidisciplinary framework;
- Being able to function successfully in an international, multicultural, and multidisciplinary team.

2.6. Accreditation

A number of questions are asked to assess actual quality before accreditation of the MSc program is possible.

a. Are the four core qualifications met (see section 2.1.)?

b. Are abilities and skills developed far enough to deliver original contributions to one or more sections of the domain? And has this level been tested in an accepted master thesis?

c. In case of a MSc focussing on research of education, has the domain knowledge been deepened sufficiently with respect to (i) foundation and history of the domain, (ii) structure and interrelations, (iii) specific skills (design, research, etc), (iv) ethics of education and research, and (v) understanding the relationships with other domains of science and technology;

d. In case of an academic-professional oriented MSc, has the knowledge of a specific domain of academic professions been deepened sufficiently with respect to: (i) positioning of the domain among the other academic professions and disciplines, (ii) positioning the domain in the whole of societal developments, (iii) skills and abilities needed for the specific profession, (iv) ethical aspects of professional practise.

Ferran Sagarra, Barcelona, Spain

Thank you for your contribution which, I think, it is very useful. I just want a further explanation on what do you call "the typology of the schools" because I really don't understand this classification.

Kees Doevendans, Eindhoven, The Netherlands

It's a typology taken from John Worthington's report where he had these two dimensions: the emphasis on technology or the emphasis on arts in a curriculum and the academic setting or the vocational setting of a school. I do not to propagate this typology. It was a typology, which came out of an observation of schools in Europe. For instance, in Netherlands we have not schools in all the boxes. We do not have architecture in a purely academic setting; it's always architecture in a university of technology. So, this is what we wanted to map; this differentiation. If you want to use this typology maybe you say "well, it's useful", but I do not recognize myself in it. It was just a suggestion. We do not want the uniformity, we want the differentiation but what is this differentiation, is it all schools separated or are there different types of schools with different emphasis in this curriculum? This was just a starting point.

Constantin Spiridonidis Thessaloniki, Greece

I would like just to make a comment, which is rather beyond the contents that Kees Doevendans presented. I feel that the discussion that we will have in the afternoon and more generally all the discussions in the framework of this Meeting must take into account the fact that not all schools of architecture in Europe have already been involved in the Masters – Bachelor system. For example the French schools are not yet in the same system, the Greek schools are not in the same system, the Spanish schools are not in the same system and a lot of Italian schools are not already in the same system since institutionally they have both possibilities to be or not to be. I would like to remind you that in the last meeting's statement we agreed that the possibility of freedom of the school to apply or not this system must remain active. So, it is important to find a way to discuss all these issues in a broader orientation. The issues that Kees Doevendans mentioned concern all the schools whether they are in the Bachelor-Masters system, or they prefer and decide to stay out of it. I strongly believe that in this Meeting we must protect ourselves by any kind of exclusion and to try to introduce or to find ways of discussion, which will incorporate all the spectrum of aspects and will raise all these very interesting issues in all the types of systems of architectural education that we could register between us. A great contribution to this point will be that which Wim Scheafer will present concerning the posters with the presentation of the system of studies applied by the participating schools. He will do that later as a means to see how many schools are following one or the other way. It will be very interesting to see the representativeness of each educational system and I hope that we will have the opportunity to do it.

Richard Foqué, Antwerp, Belgium

Yes, I think it's an important addition. I want to make another addition actually, which I think was missing from the interesting opening introduction. I think that what we are

missing also is that some schools in Europe apply a system in which the students, between the two cycles or in between their studies, go for internship into an architectural office. I think this is not a consideration. I think, this afternoon we should take it into account and discuss how do we go about that. Some countries do it in between the studies, other countries have internship after the studies and before the profession and so on. I just make a point; I don't want to have a discussion about that right now.

Another important point is raised from the slide you showed about the distinction you made, or the suggestion, between Bachelor of Science, Masters of Science, Bachelor in Architecture, Bachelor-Masters in Architecture, the professional degree, the more scientific degree. I think we should be very careful with this distinction because distinguishing the Masters in Science and the Masters in Architecture, (I don't think it is pure semantics), we may say to the outside world that we consider that Architecture is not a Science. It is just an idea, which you could consider as a point of discussion.

Kees Doevendans, Eindhoven, The Netherlands

Yes, but it's not always just mentioned because if we in Eindhoven will decide to do a Masters of Architecture, we will lose our firm name. Why should we lose our firm name when we are not a scientific education anymore? So, the only education we can offer right now is on a Masters of Science. I mean this is behind all this and you know it as Deans or Heads that behind are movements, there is always the question of funding of course. Well, I think we'll have important discussions on this in the afternoon.

The Case of the School of Architecture Saint-Lucas in Brussels

Johan VERBEKE
Brussels, Belgium

I have been asked to present some issues, which are going on in the School of Architecture Saint-Lucas in Brussels and Gent at the moment and relate them to some of the issues which have been raised in the previous presentation.

First, the Dean identified the admission for students to enter architectural studies; it's the diploma of secondary schools. I've written down not for this fact but I note that in a lot of countries, there is a maximum number of students which some schools allow or some take exams in our case, in France, in Belgium. We have to accept every student who comes to start his studies if he/she has the diploma of secondary school.

At the moment we have a structure which starts with two years and after their completion, students get a diploma of candidate in architecture. After these they need two more years for the diploma of interior architecture and three more years for the diploma of Architecture. In the future this will change by law so, the next couple of years we will change to assist these three years for Bachelor degree and two years for Masters degree, which has for us quite a lot of implications because normally, at the moment, after the second year we have a quite severe jury and a big project for students to complete before they can start the third year. So, then the question remains in the second year or will move to the third year, which is the final year of the Bachelor degree. At the moment we have been discussing how to change to this new structure and how to adapt and change the curriculum. So, it's under development.

An important document, which is also mentioned by Kees Doevendance, is a Dutch formulation of qualifications for Bachelor and Masters degrees, which I'll try to translate this in the context of architectural education. In our case the design studio is the 'centre of training' and integrated in that is urban design, architectural design, of course, interior design exercises. It's integrated in the theory courses as well as in the design studio courses. We apply the ECTS system to indicate the work load and the amount of work involved with courses.

A few issues are important in the discussion for the European curriculum. One is that, for instance, history includes history of interior, history of design, history of architecture, history of culture and so a lot of parts, which are delivered by different teaching staff but for the student is only one examination at the end of the year. So, it's an integrated examination covering all these sub groups and the same also for the old topics.

Another issue, which is important, is the course, which is mentioned directly as explanation of forms. We developed some kind of special course; the student needs to design objects, let's say a little bit out of the context of buildings. They get a design exercise and they need to create an object at one-to-one scale, which gives an answer to the design problem. So, it's more or less related to art exercises and it turns out that this is quite important. We put it in our curriculum as it frees the student from the constraints of the building and they are given, let's say, some kind of free context. It makes it possible for

them to develop their creative design thinking. I mention this because maybe at odd places they are also special things, which have been developed, and it would be a real pity if they start working on a European curriculum and those issues disappear. There is only one examination by a group of teaching staff at the end of the year for the student, which those aspects need to be integrated with each other.

Another aspect is that we have an international program, which is starting. It facilitates the exchange of students. It's on fourth year level and it's completely one ninth of the normal course and it's also open for regular students. As I already mentioned we applied an ECTS system. That's also important in the discussion on the European curriculum, that we have a yearly system at the moment in Belgium. So, this means that at the end of the year we take the decision if the student passes to the next year or not. So it's not a credit accumulation system at the moment.

We move to a semester system then we have two periods of six weeks, that is interior design studio and then after that we have three weeks of only design studio that gives us a flexibility of creating the studio projects of six weeks, twelve weeks or a nine weeks and after that three weeks of exams and this repeats itself during the second semester. During the changing process and the discussion on the new curriculum some issues are important. This is an increased *academisation* of the activities. The search for activities becomes more and more important and has an influence on the new curriculum. That's the most important thing to us, to save some time.

The relation between art and science remains very important to us. We expected to have a greater flexibility in course options especially in the master courses so that the curriculum is fixed for all the students, which is maybe opposite to some other schools. In the Masters courses, we have students who come with a completely different set of courses. So the expectation is that we will move somewhere in between. The research becomes more and more important. We are activated in the research theme covered by the European Commission and what we did a couple of years ago was to get some external people who are specialized in research methodology, to develop research policy documents. It turned out that external input facilitates discussion between people within our Faculty and helps to overcome some problems. Networking and exchange of students and staff is considered very important and especially the new Masters Degree within Meta-University and in the USO-BUILT named Network, which is a case that is already mentioned by Kees Doevendans and then a few final remarks.

The title as well as the profession in Belgium are protected and students are required after the studies two years of practical training before they can enter the profession. I think this is also an important issue. In Belgium, the professional body of Architects has not an important impact on the curriculum as it is the case of the United kingdom and the RIBA. I think that is very good but of course things may change in the future.

It is maybe important that there is a growing impact of information and communication of technologies on the teaching. Collaborative design team work plays a more and more important role. Although they are a little bit opposite to the way of working in the design studio at the moment the students are changed in front of the individual design capacities. We have to be very careful because we have at the moment a very rapidly changing environment in the profession as well as in the educational and economic context. So this means that whatever curriculum deconstructs, it should have a great flexibility to react as fast as possible to this changing environment. Thank you for your attention.

The Case of the School of Architecture of Glasgow , University of Strathclyde

Alan BRIDGES
Glasgow, United Kingdom

Kees Doevendans asked me perhaps to help in this afternoon's discussion by giving a very brief example of the structure that we have at Strathclyde, which is based around a Bachelors-Masters approach. One of the problems that we face is finding the balance between what we want to teach, the discipline of architecture, against the requirements of the profession for training professional architects. In Britain, as Johan said, the title architect and the areas of study are legally defined and are regulated by the Royal Institute of British Architect's (RIBA) and the Architect's Registration Board (ARB). So, we have to cover certain set curriculum elements but apart from that I think there are a number of issues, which we as a school want to teach, and we are trying to find the balance between the Bachelors and the Masters to both cover the professional side and our own research late interests.

Some of the opportunities that we see for schools of architecture come in areas which may not have been perhaps considered court to architecture before such as space planning, the important self business analysis and economics, building life-cycles, team building recognizing that construction is a collaboration between several professions. How can we perhaps work with contractors and be involved in the design of building compartments. The interdisciplinary skills that are necessary to perhaps cover the engineering aspects of architecture and the social science aspects of architecture.

Some of the specialist skills that we think are important to cover, because one thing that we do at Strathclyde is to say not all architects are equal. There is a lot of specialization possible within architecture. We've all been tempted in the past to see our students as the great designer that is going to go out into the world and make marvelous buildings. In practice we realized that we are lucky if 5% of our students really are brilliant designers. So what will the other 95% usefully do or maybe you can specialize.

Some of the things we look are specializing in formulating architectural briefs, design management, construction management, project financing, which is increasingly important. Health and safety aspects such as risk assessment management. Again procurement; how old buildings actually financed and delivered, how does a client actually get to a building, how can that building be financed and sourced, the ongoing modification of the building, facilities management, increasingly important areas of energy management. Special aspects of design are for some engineering for example, aspects of other engineering services, information technology systems in architecture covering things such as documentation control and that relates to the research interest of our staff and we look at social issues recognizing that the population is aging. How do buildings and access to buildings need perhaps to take into account the different population profiles, how can we look at the problems of urban renewal, lots of things about information technology, construction processes recognizing, increasing

mechanization of construction, how might that affect the way that we design, more general uses of technology, the recyclability of materials, environmental and energy management.

How do we structure our Course to even begin to look at a few of these things? The simple division is between an undergraduate school and the graduate school. We have three years of undergraduate teaching followed by a year out in architectural practice and we recommend this to all of our students because we feel that that has an enormous influence on the way that they are equipped to come back and tackle their Masters program. They come back and do two more years in the university and then have to complete at least one additional year of professional practice but usually, it's more like two years before they sit their final professional exam and are fully qualified architects.

The Royal Institute of British Architects really supervises the progression of qualification and we reach the first stage of our idea of qualification after three years. After our Masters Degree we reach the second stage, and then the final stage is the legal and practice site for full qualification taken after a further period in architecture practice. In the undergraduate school everyone follows the same course and we are tempted to teach almost all of the required professional elements in this undergraduate course. 50% of the time is spent on design studio, 40% is spent on court classes, essential classes and 10% is free choice by the students from any subject in the university.

Where we are perhaps different to many schools, even within Britain, is that the structure of our fourth and fifth year leads to a number of different Masters Degrees. In Britain we can award a degree with almost any title we want. We are not restricted by law to just awarding a Masters of Science or a Masters of Arts. So, recognizing again our research interests we offer a Masters Degree in advanced architectural design, which is essentially experimental studio, the more traditional sort of architectural education. We also offer a Masters specializing in using computer information technology in design. Recognizing again that urban design is important, we offer a Masters in urban design and also in collaboration with colleagues from the Department of Structural Engineering and Environmental Engineering we offer a Masters in, what we call, integrated building design where architects work together with environmental engineers and structural engineers in a team simulating the environment in which they would work in practice and we call this integrated building design.

All of these four courses are recognized by the RIBA as giving exemption from their "part two" requirements. So, these people who qualified as architects, have very distinct specialties and that speciality is denoted by the title of the degree that they gain. We also offer another course in construction management, which is not recognized by the RIBA because we do so many other different things within a course. If I've got two or three minutes more, I can perhaps explain.

The advanced architecture design course offers the students the chance to pursue, to a certain extent, their own interests in what we call 'special studies'. But together with staff in the department, it is essentially trying to get established to each individual student a theoretical approach to his own ideas about architectural design. Then having established a theoretical position, the student has to show how that position can be exemplified in a design project. Students are assessed on that studio design project, which is complemented by a written document explaining the theoretical approach that they adopted in that design.

The *computerated* design course gives an overview of computer technology and looks at the application of computers particularly in early stages of the design rather than simply the documentation of an already designed building. Again an important aspect here is design collaboration. We run a number of Internet-based design projects with students collaborating through the Internet both with a client in terms of developing briefs but also with other construction specialists engineers and so on.

The urban design course is typically based around an actual design problem in the city of Glasgow. There is a lot of urban rehabilitation work that has been done in Glasgow and we use the city almost as a laboratory for this course. We look at the history and theory of urban design and the practice of planning and design in urban development. We try and identify the key-characteristics of the city so that proposals are in character, and also the economic and social aspects of urban design. Again it is examined by design projects supported by a written document.

The integrated building design course is really training for students to work collaboratively in multi-disciplinary groups, really gaining an awareness of the skills that the other professions bring to the design and construction of a building. It really sets the context against which they will have to work in practice and so, there are also large aspects of this course which look at the legal and administrative, financial and managerial issues of running a practice.

The construction management course has a number of specialist options you can specialize in; strategic management, information technology or the special problems posed by international construction. The biggest construction companies now operate in a global market and the question 'what might be different by designing and constructing a building for construction somewhere remote from where you are working' is very significant. Again there is background in computing but much more management, human resources, quite a lot about economics, things about human management technology transfer if we are working in developing countries, how can we establish the infrastructure etc. perhaps it's necessary to build in developing country things about contracts, the performance of construction materials and engineering materials' technology. So, here is a possible construction of a course, which we believe gives the opportunity both to cover the professional aspects of architecture but also, I believe, through the specialization in the Masters courses equips our students for leading roles in the modern construction industry. Recognizing that architects really are multi-functional and there are many other things architects can do apart from simply design buildings. Thank you very much.

The Idea of a Poster Exhibition on the Structure of School Curricula[2]

Wim SCHAEFER
Eindhoven,The Netherlands

It's very nice to be here and to present this idea about a poster exhibition. Just to make some short notes to explain to you something very briefly. What happened was that in April, March I started to communicate with Constantin Spiridonidis about this idea of bringing some posters to this meeting as a concurrent event, on all the things we are discussing. As a result you have received my e-mail letter with a request and as a further result there are so many posters brought here that Constantin Spiridonidis and his staff need some more time to present them. I hope this afternoon, the majority will be there or at least tomorrow morning so, give to the staff some more time, please. The background idea, which I discussed with Constantin Spiridonidis, we needed maybe some five or ten e-mails to make sure we had no misunderstandings. I would very briefly reflect to you.

The Bachelor-Masters system in Netherlands now is a fact, we have it as a new law, it's operative. It's all about a programming system. It's how to organize in great chunks the degrees and the education packages. It does not however explain something about quality. We should be very aware about that. Let a system discussion not overrule the discussion about quality and contents. One specific quality in Europe, and maybe it's the specific quality we are referring to during the last meetings, is diversity. This statement is of a global notion, a typical European reality. Different cultures, different landscapes, different traditions, expressions, different climates, different economics, different research interests that is in fact the treasure that has been offered to us maybe as treasure keepers, as we are here. We ought to make it more transparent Bachelors, Masters. It is something we have to deal with as a motorcar system is offered to us with four wheels and we don't make a fuss about it. We just use it but we decide which road to choose with it. That means we should not wash away that European treasure by introducing a new organization system. This will be a point to keep in mind. So, we will be very interested to provide the guidelines, road maps to students and stuff how one could travel through the virtual and real space of Europe. As we are here, why not use it to look at each other's programs and see how we could travel through it. There are many more things to discuss but I would leave it with you. Thank you very much for your cooperation.

[2] This initiative of Wim Schaefer was presented in a form of poster exhibition in the framework of the Meeting. A big part of those posters is presented at the end of this volume. Wim Schaefer continuous to collect this material which will appear in the site of the ENHSA project www.enhsa.org.

Curricula for Architectural Education in the Common European Higher Education Area

Discussion Group 1

Coordination by

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As we heard this morning, in the Netherlands the Bologna framework is now a legal requirement by the Netherlands government of the further educational system. However it's not necessarily a legal requirement for all the EU members and indeed, for the Countries who are not from the EU strictly speaking, it is not a requirement at all. So, to some extent, maybe it would be interesting to hear if there were views or comments that people might like to make about the alternatives or the alternative to the three plus two system and the merits or demerits of this situation. I personally believe that the significance of diversity in architectural education is extremely important and irrespective of or in respect of what governments and ministries of education might like to achieve in terms of making further education neater.

We as educationalists in the field of architecture have an obligation to think about the richness that comes from diversity and difference between one school and another. If ultimately we are all to be educating students in exactly the same way there will be no point on the Socrates program, there will be no point in exchanges, there will be no point in anything. The very fact that these programs exist testify to the differences and it's because of these differences that people want to experience the environment, the education process and the atmosphere of another school. I think it is dependent upon us to preserve this difference and somehow create an alignment among the different positions. It's the fine line of division between where that alignment occurs and where the difference is preserved is really what I believe our task should be.

Herman Neuckermans, Leuven, Belgium

I like to add that in EAAE Hania Statement, these issues of identity and diversity, culture identity and diversity in different approaches in schools is written. Ii is not just something like a comment but it is really written in the statement. That statement has been sent by

the EAAE to all Ministries of Education all over Europe and I also gave it to our representative in the Rectors' Conference, which is in the advisory board of the Ministers' meeting with these comments.

Juhani Katainen, Tampere, Finland

I am pleased to hear that it is our privilege to think what kind of education we can have and when last year in this meeting we ended up with a statement, the Hania statement, it was clearly stated that it can be so that schools have one way, five years education leading to the architects' examination and then this second thing has come very strongly forward in the introduction of today. I understand well that when these matters are put into the legislation, the architects and architectural schools are unhappy. They can't say 'we are not following our laws'. I still hope, and for example in Finland, a case is that we don't have that kind of legislation. I hope that the reason behind this kind of statement is that when we think of our task, what we are doing now, I think a bit narrow-mindedly. I'm speaking about education for architects and the profession of architects, without saying that the profession of architecture should be very narrow-minded but let's say that it has some things which are common and have been common for a long time.

I am of the opinion that we need these five years and I understand on the speech that when we divide our studies, we can put mobility forward. Actually in Europe I think mobility exists, and between students and schools there are many good examples of this mobility. So, my question is, (I don't expect answers, maybe the answers will be given in many various ways) whether we need this kind of richness, at least I feel it will enrich it, we have to divide our teaching into two parts because thinking what we have to teach these young people, actually five years is very very short time. How to make it shorter, how to make sure that then what comes out of these three years first and then the second part, two years more, how can we be sure that we are making a promoting world for these young architects. I understand this is anyhow the reality and so, it is worthwhile discussing what comes out of it. I also understand that exchange between schools can benefit from this system. I have nothing against that. I'm only trying to say that we should concentrate on what education for good architects should consist of and how to manage with that in different occasions and I can't stop without saying that we have very good element at our disposal and that is Architects' Directive and its goals and we can use and interpret these goals even for the future, I hope. Thank you.

James Horan, Dublin, Ireland

I get the impression that this morning's presentation was so comprehensive that there is very little maybe left to discuss on this issue and I certainly don't think it is a topic of high controversy because I get the impression from talking to people over the last days over here that this issue is one that we are very much in agreement about and last year's Hania Statement at the end of this Meeting reinforces that position. However there is one point maybe I might raise as a discussion idea. In the case of the Netherlands there has been a governmental decision made about the educational process or at least about the duration of time leading to awards. It doesn't, I think, and maybe those of the relevant schools will correct me if I'm wrong, it does not in fact prescribe to anyone as to how the educational process for an architect must be carried out or how long it takes before the

profession will recognize someone as a member of their organization. And with that in mind it seems to me that any member or government of the EU might at any point decide that in their particular country a BA (Bachelor in Architecture) type award is awarded after three years in line with the aspirations of Bologna but that doesn't necessary conclude a professional body like architects. And indeed the medical profession with whom I regularly draw parallels, from deciding that this is an award but it's not a professional qualification. Somehow or other it will be necessary maybe for schools to think about the idea of having this award after three years. Those of you who already do it, it isn't a problem but those of us who currently operate a five year system, I think we'll have to rethink the educational process from the ground off. In other words it's not just a question of snipping the five years into three and two and saying that after three years you have an award and you just give them a piece of paper. It seems to me that the structure and design of the educational program has to take this division in mind. I'd welcome comments from you on that, if you'd like to say something about it.

Kees Doevendans, Eindhoven, The Netherlands

Well, there are indeed several systems. They are next to each other and they are independent so, you have the system of credit points. It's a definition of study of 210 credit points in the Netherlands or this will be 300 ECTS and this is divided in 180 and 120 credit points. So, that's the one system. The other system is the system of grands. There are four or five years and it is independent because the study is seen as accumulation of credit points and you can do it in eight, ten, nine years, it doesn't matter. Another line is the professional recognition. It's separated not completely. We relate the professional recognition to the diploma this moment. The title is connected. So, there are separated systems next to each other, they are completely independent.

James Horan, Dublin, Ireland

I believe that probably the most sinister aspect of Bologna, if one wants to see it like this, is that a department of education in any member state may very well make the decision that its funding of education ceases at undergraduate level and therefore once an architecture student has achieved the first award after three years the government of any country may decide that it has no further responsibility in providing money, grants or anything else towards the additional years that are required for the architect to graduate. I suspect, this might be an underlined motive behind Bologna.

Joaquim Braizinha, Lisbon, Portugal

I would like to reinforce what you said. I and many others think that before the Bologna Declaration there is an economical problem. The financial system of the public university is in a big crisis and they can't offer five years without paying anymore. This is the reality. If they put the obligatory system in three years after they say 'you want more?', 'ok, you have to pay'. They land this way at the private university and they learn well but they may not make the mistake if they want they can privatise all the public universities in Europe. Instead of this kind of paradox of three plus two there will be Masters. Why? You know in our schools the Masters is a degree, it needs investigation, it needs the production of writing, thinking and so on production of material that it is part of research in our

schools. It is the first level for after training to the later PhD. It's still like this in our schools. If the Masters belongs to the basic information we will lose all this work produced in our school as research apart from the Masters for the teachers and for the students. And I think that is a loss. There will be no recovery from this, vulgarising the grade of a Masters and so on... but it's an economic problem, dressed with a search for a new paradigm for the university. Maybe later, we will have no other things to say so, we are discussing the sex of the angels. That's my sense. Excuse me and thank you.

Ferran Sagarra, Barcelona, Spain

In our case in Spain as my colleague from Portugal said, it is true that we used to have the Masters, it was a third, it is a third cycle and that means after the five years it's two years. And before the other two years or three of PhD, it's very long. So, that's really very expensive. I agree there is an economical problem but this is not an invention of the bureaucrats. It's a problem. Perhaps we had to talk about it. Are we the necessary number of architects in Europe? Is it normal that in Italy every school has 18.000 students of architecture. Is that normal, I mean is it something to reach or it is just an illness? It means perhaps that we have to talk about systems of selection before talking about how many years the career has to be in order to feed the discussion.

Andrzen Baranowski, Gdansk, Poland

I would like to add one more comment to what you have said. So far in Poland we have not this system -three plus two- or anything like that but we are experimenting on it a little bit. The real problem that we are facing now which concerns us is the idea of two steps or two degrees. Our politicians, I mean both the government and the members of the parliament, are now considering how to make a whole investment process more effective especially when foreign companies are coming to Poland. They have found quite unexpectedly that the best way they can do it is to reduce the demand for qualified professionals to make the project. They might be, I'm afraid, extremely happy once we introduce the new system. They will consider that Bachelors of Architecture is enough, it is fine. If somebody is so crazy to do a Masters degree, that's his personal problem. In general, the point is that we have no power to demand the fulfillment of high level standards of professional competence for those who are working as designers or urban planners or whatever it is. So, that's a sort of danger, which we, I mean architects or people involved in creating the space, are helpless when we are faced against the politicians who have some sort of ideas about how to make it easier. Thank you.

Christian Huetz, Regensburg, Germany

We have a distance to what is discussed today. I want to say that we shouldn't go back to the discussion of last year and we can discuss now whether three plus two is better than two plus three or it's an economic problem that the politicians have just to not pay too much. I think we can do that we have just now to think about and I think it was a task of today to discuss how was the European curriculum in architecture? It was a question mark I think, it was very good that Kees Doevendans put a question mark because I'm always wondering whether we have to have one. Because we are talking about identity and diversity and if we are talking about identity and diversity, with diversity there is no

need to have a European curriculum; we'll never get that. So, we should think about what we could do just to come together and just have the diversity which is very fruitful for the students which are changing and which are in mobility. Aftre we should talk about discipline and the profession. I think that's a very important thing to discuss about teaching in two parts or teaching in one part. Remember the UIA, (Union International d' Architecture); they said "an architect will have to study five years" so, that's it. But we know they don't say that someone who has only done studies in three years, who has a Bachelor, can become an architect. So we have to define what the quality of a Bachelor is and what can someone do who has a Bachelor. I think that this is the most interesting thing. As we said last year someone with a Bachelor will never be an architect. So, I think there is no need of discussing now how to define the Bachelor and how not to define the Masters. Because you know what a Masters is: that is an architect. We have to define what a Bachelor is. So, that's all. Thank you.

Matteo Robilglio, Torino, Italy

I was feeling like the debate was getting stack into three plus two so, thank you very much for getting the ball in the field again and I'll try to keep it so. We are enthusiastic about the three plus two system and I'm very fond of it but I think we should discuss if we want to keep our diversity, which is the main issue. I don't think we need something like the Euro money in the architectural education field. We should keep our national currencies very well but we should work on certain problems like how do we exchange our currencies so, how do we validate knowledge, credits and scientific research in mutual exchanges. This is a big problem. Second one, what our common knowledge is and when should it be required. It does not matter if you study five years or three years but is very important when do you start for instance studying construction and mathematics applied to construction.

I report this because I feel three plus two doesn't make five so, if you want to change you can't just cut after, as you stated before after the third year but you really have to reorganize completely the distribution of knowledge and acquisition through the five years that we all charge being time of a real architect. I report this because in our school one crisis fact in the three year system is that all the science construction teachers want now to go back to the old system having mathematic analysis and then science of construction and they go on actually building experience later than third year. So, we have a kind of schizophrenic system where students receive very practical skills and integrate knowledge in the design studio but they still get very abstract teaching in other disciplines. So, we have to decide what should be taught and how, at which stage regardless of what system we use and we choose from the bureaucratic point of view, three plus two or five integrated.

The second thing we should work on is how we will surpass and leave the Erasmus and Socrates way of accreditation of a mutual teaching and have a real automatic system of acquisition of credits between universities. EAAE is the place where that should be decided. At this moment if I want to take a course in Eindhoven I can. But there must be a mutual treaty and it must be negotiated each time or nearly each time, how could we have some automatic system that I can put some courses in Eindhoven and having the credits in my curriculum in Turin without having problem.

The third issue I would like to discuss with you in this meeting is how we can validate a scientific knowledge. It is an issue you raised this morning in your paper in front of other

disciplinary fields. You mentioned that the only thing -I didn't agree with your exposition- that was architecture was not mentioned in the sixth framework program. In fact the sixth framework program doesn't mention any discipline; it doesn't mention medicine more than it mentions architecture. It mentions some fields' environment and energy or local government and citizenships and so, it was to mention that sixth and seventh paper are inside the framework program are deeply related with what we do in our faculties whether it is management let's say or energy sustainable design. In fact the problem is that we are not able to cope with the system of entry into the sixth framework program and one point on which we are weak is that our system of producing knowledge apart from the ones who apply themselves regularly in papers production is not validated according to scientific standards because scientific standards, everybody of us knows, are based on physics and mathematics way of doing research which doesn't match the specific aspects of our research. If you take the Masters for making an example that everybody of us knows, if you take the Masters in a relevant book in the history of architecture, post-war which is maybe the architectural "La Citta " of Aldo Rossi or the most translated will have no relevance, it had no pure review, it didn't appear in any scientific publishing house. So, it wouldn't match the criteria but it was nevertheless relevant, it had an impact. So, what I would like to discuss with you is whether we are able in the EAAE to go towards a way of some kind of impact facts of our studies including also the design studies and design publications. If I design a very well designed energy saving building which becomes a standard reference for other professionals, for students why shouldn't that be as relevant, as an irrelevant theorem in mathematics published in negligible local but peer-reviewed journal. So, I put it in a provocative way. I feel like that if we want to compete with other disciplines and scientific sectors we should not mean the way they produce research but state the legitimacy of our way of producing and accumulating knowledge. Thank you.

Kees Doevendans, Eindhoven, The Netherlands

Can I respond to this? I agree with you. It was part of my presentation I think that EAAE could be very important to make these signs scientific standards and be proactive for they are very powerful or could be a very powerful organization. Of course, there are also scientific journals you can publish in, so, it's not a black and white situation, I think, and science is a kind, established as a way of communication. You cannot neglect this way of communication. So, I agree with you but you have to be careful that you are too defensive and deny the scientific word research.

Matteo Robilglio, Torino, Italy

Of course, that is not black and white but let's bring another example because on the other hand we should avoid to go to the fine arts system, where your excellences are always stated but never demonstrated. But if for instance we use public publishing, which is a scientific activity but we include also architectural magazines or a selection of scientific relevant architectural magazines we could include professional research, which I very hardly can distinguish from architectural research. I don't know if Rem Koolhaas is not doing research, when he publishes one of his projects and becomes a maestro for my students. So, I cannot deny that it is relevant. Of course, we should select reviews maybe find some way of crediting reviews, a kind of quality label but if you publish in "Lotus" that is scientifically relevant, it comes into the debate maybe if you publish in the

review of the "Order of the Architects of Turin" is not relevant because it doesn't come into a European debate but we could make some steps forward by accrediting maybe some reviews not just scientific reviews but also architectural reviews or tendency reviews but which have acquired certain stage of being the reference. Detail is a reference for sometimes, even if it is not a scientific review publishing something on material research in detail is important, becomes a standard so, I won't put it in black and white.

I would like to see if you cannot include more of the professional market and professional research into the scientific research. Otherwise, I feel like we are having real schizophrenia of running a system which if you want to have a career, you publish just papers but that's not always quality papers, there is also rubbish into the papers and scientific. Everybody of us knows and on the other hand you have hyper-professionals that enter our universities only when we called them for key-note speech of a main conference such as Peter Rice when he came to my university. Every student will be excited about that and I feel like we should try to fill the gap also to legitimate us in front of European Community when there are important programs of research. If now we want to make a proposal altogether for instance for sustainable buildings in the six measures of the sixth framework program, we could, we are eligible but the pilot of our scientific titles will never match the one of, I don't know, physics scientists because that's their only activity, that was my point to define a little.

François Tran, Lyon, France

Maybe another way to go on. I suppose my presence at this table is expressing the interest of French schools to adopt the EU model. We have to benefit from the first good experiences and my question is to Alan Bridges, and Kees Doevendans. Which are practically the main difficulties for example institutional conditions or how to define the new content?

Kees Doevendans, Eindhoven, The Netherlands

Well, I think the main question is about the content. The generalization of the curriculum after how general should a Bachelor be and how specialized the Masters. This is the main question. I think the institutional context is not a problem. You can always change the juridical paragraph of the curriculum, that's no problem. That's just a question of some sentences or some words, that's not a problem but the content and how is the admission to the Masters, how is this regulated, arranged, do you need a general Bachelor or not is a kind of homologation, how do you call a possibility in the master face. I think these are some main problems but maybe others have other experiences.

Per Olaf Fjeld, Oslo, Norway

In someway I think we all agree that our main goal is still to make these schools better in a way. That means that to qualify for architecture in the future that has a capacity to face the complexity that architecture is facing. We certainly know that there is a line of thought between the line of teaching, the process that follows the line of teaching and the project in the end. These three things go together in a way; the line of teaching, the process and the product. In some way I think these will continue to be individual. They will be individual for each school. I mean, it would be strange if they didn't continue to be individual though

will again live in an even global sphere there is still a certain type of line, there is still a certain type of condition that belongs to each school, though we are working in an international event. So, the question that we are facing on the three years or five years maybe some schools want six years maybe is a very simple question related to the question that we have a problem of finding out what we really focus on. In some way we might put on another layer of bureaucracy, you know, we discussed. If that, having in mind that, after all, our goal is to make schools better in some way. The question is what is really focused related to the three years, five years, seven years or ten years, what is the game, and that in some way can we make these schools better. I can't really see the real focus on that question related to whether three years, five years or ten years. Thank you.

Onur Selahattin, Ankara,Turkey

This morning Kees Doevendans presented to us certain points, which are very clear and I think a very good checklist as far as I can see. I have a question related with one or two of the categories or the boxes let's say. I find this expression of a common kernel common core I think, the critical and the most important expression and this is I think something that we should find ways of converting a plan and coming to a certain consensus. I find those two boxes, categories of common kernel and typology of schools a little bit conflicting that there is under the typology of schools a differentiation in common kernel. Shall we accept a differentiation or are we going to accept a common kernel, which is maybe more or less a constant though its realization maybe differs. I think that needs clarification. Do we, for instance, accept a common kernel in the matrix of technical and vocational? What I can see from the rest of the boxes is that there is a possibility for a differentiation after three years. I think this morning Strathclyde was a very good example of that: after three years there is a flexible area in which there can be differentiation, specialization of areas. So, I find that kind of relation significant and I think Richard Foqué will elaborate on that.

I have another question related with the follow-on of the Bologna process at Prague. As far as I can see from a schedule that was issued and it's I think in the Internet, there has been a conference in April, in Lisbon for the European educational area on recognition issues in the Bologna process and there has also been another seminar on 20th of May on joined degrees in European perspective, seminar or Master degrees, seminar on integrated programs. Well actually those two are going to be in February 2003 and in the spring of 2003 and this is going to be I think another seminar following, one on the social dimension of our education area and life long learning in the beginning of 2003. Now, these seminars as far as I have been informed are formative seminars which are going to influence the Berlin conference, Berlin meeting of the Ministers. So, I'm wondering if so far from those seminars, which have been already realized is there anyone who attended all or is there any information about those and I wonder if it is not important to join in the coming seminars in order to influence from the perspective of architectural education whatever is going to be taken up and discussed? So, those are two questions and some remarks that I had to point out.

Herman Neuckermans, Leuven, Belgium

I would like to reply to your last suggestion. You mentioned some seminars. Personally I

don't know what is their influence on the politics of the Ministers. The only thing I know is that the conference of Rectors is influencing deeply their decisions because they made the document, which is preparatory to the meeting and normally they follow their guidelines. That's where I can guarantee we introduced our Hania Statement. That's all that I can say.

Many things have been raised here, very many different things especially you Professor Robilglio mentioned a whole life time debate, starting from the compulsory and core elements ending in the scientific states of what we are doing. I think that although I advocate this diversity, an identity of the schools, and if you take the example of the Euro, when I go to Italy, they say Eouro, when I come to Greece they say Evro. I think that in fact we are not, we are reacting against equalization and I think, I'm quite confident that we will survive this thing but nevertheless, somehow I have the feeling and I believe that maybe we can define some core elements that when you afterwards after five years you talk to somebody you know more or less what he is aware of. That doesn't mean in my opinion that it takes you three years of the Bachelor. It can be less but I think we should be able to define some of these core elements.

The other remark I would like to make is that we cannot avoid to add a discussion about five years because we said in Hania, everybody has said it, we made references but I have a lot of experience with students from different schools and they are not working at the same pace, at the same rate. So, ultimately it would be much better to go to the credits and focus the effort on what are the credits for what effort do you get the credit, does it take you or you three months and the other six months or do you sleep half of the day and take two years, that's his business. I think we can stick to the point that we say according to many many years of practice we know that we cannot compress the making of an architect in less than five years but apart from that I would stress seriously the issue of the credits and focus not on what you eat but on what you produce. In our school regularly we get files from people from all over the world asking for equivalence with our Diploma. Then as a director of the program I have to look in all these programs. The last one I had was someone from Adelaide in Australia having a Bachelor-Diploma in Architecture after six years of study. If you go to all the subjects, all subjects are there, structures is there, all you can imagine all say whatever you like in architecture is there. So, it's not enough to have it on the list you also have to know what is behind the list and what is in the head of the one that you face afterwards. That's very important because I couldn't make up my mind if this person knows about structures conceptually or he could calculate them or something in between, I don't know. So, I think we still have to do a lot of work and I would focus on these core elements trying to define with core elements and then to define contents and then work on the ECTS and the delay on the time spent is five years divided or not etc., that's my position.

Carlos Weeber, Delft, The Netherlands

Let's not say a lot about the subject I just want to add some Dutch items. As you know we are a rather liberal country so, we don't have a profession, which is protected. Everybody can do the profession. So, we don't have a connection, which is profession in the whole of our school. We are just independent. The only thing we have is this governmental, we say as well as five years and that's it. It is a department system and then it's in the responsibility of the school to achieve the quality. I agree with the idea of diversity in

Europe. I don't think we will ever have European architectural education, that's not necessary but it's very necessary that we accept our students mutually that we don't use it against our schools. Often the diversity is used to put barriers between countries and that we have to stop in order to avoid this. Especially the profession has the habit to put barriers between countries like in the Netherlands. Architects cannot work in Belgium for example, it is stupid, no? So, that's far more important than unifying the educational system. Nevertheless our university decided to give the Masters courses within three years only in English. You may also know that the Dutch language maybe abolished in the university in the next four years and that means that our students will be educated in English and if every country could do that, that could be nice. It would be much easier to exchange students and staff within this so-called diversity. So, we can imagine some rules, some actions beside the content of the education to encourage two things: to encourage the exchange of students and staff and secondly to encourage the competition between schools, it is also important. The diversity should not be used as an instrument to reduce the competition between schools and that's important. The students understand the quality of the school in Europe even in a diverse system. So, there should be some communication between the schools to check their own quality. It's of course a subject for Saturday but I want to say that, of course, it has to do with this problem too.

Kees Doevendans, Eindhoven, The Netherlands

This is why I proposed this idea of joined Masters in network strategies because within networks you can keep your identity but still there is also a competition and within these joined Masters or these cooperations of a few schools, with their own identity but also with some common things, you can arrange this kind of admission and recognition of credit points of courses. I don't know what Herman Neuckermans meant, but you always have to see if a student can be admitted to a Masters. This is always an individual case but if you make joined Masters in some schools then it can be regulated in general. That was the idea behind this idea of joined Masters in networks. I think we should not create this one uniform curriculum but a concept in which schools can have their identity but also cooperate and may have peer reviews and this kind of things.

Christian Huetz, Regensburg, Germany

I always think about what we are discussing because I made a mistake; I said one of the five years they should come out architects. What is in the end of the five years; we will have someone who is absolutely able or is able to do architecture or is someone who is just ready to do architecture? I think there's a very very big difference in between. So, everyone is talking about five years, seven years or six years but there is no definition of the quality, the core quality of someone who finishes after five years and should be able or ready to be an architect and I think we shouldn't think about that. We could create in five years or in seven years a real architect and that's impossible, I think. If we have five years or we have four years beyond, we have four years and a half so, well anyway everyone knows that main quality and ability to do architecture is just coming when you are in the profession and not when you leave the studies. So, I think it's very very important just to talk about what are the core qualities of someone who is coming out of school, who studied five years in what school. However we have not made a contribution to that point. I think that's absolutely necessary to find a solution because otherwise we just

discussing "well, let's order the sex of angels". I heard that, that's it.

Richard Foqué, Antwerp, Belgium

I was listening very carefully to the several interventions and I want to make a few points. First of all about the Carlos Weeber language problem that came up again in Belgium as well. I want to place a comment on that, on language problems. I'm not so sure that it is a good idea to turn all education into English in Europe. I think it's more complex than that. Language has also to do with the way of thinking or it influences directly the way of thinking. English is a way of thinking but French is another way of thinking and Italian is another way of thinking as well. So, If you are speaking about diversity and richness language is a part of it.

I think it is typical for these meetings not only this year but the other years as well that we implicitly take for granted a lot of things on the question what is an architect, what is architectural education and so on and so on. We are speaking for instance about diversity but if you look and visit schools in Europe you don't only see diversity you see a lot of things in common as well. You discover that schools do things in the same way or deal with the problems in a similar way and so on. So, it's maybe also interesting to see not only the things that divide us but also the things that unite us, we have in common. So, if we really want to go for and keep the richness and diversity we should also see what we have in common. This morning someone said that the culture literature in Europe is important. I plea in fact to get a more transparent view on what the several aspects of the several schools are and what is the diversity, whether it exists out of modules, which are different in the ECTS points and credits or is it the way of teaching, is it the subjects we are taught and so on. There is a need for a kind of survey and I think the questionnaire that Constantin Spiridonidis was sending around was an attempt to do this. Maybe we should improve that questionnaire or we should change it a bit, maybe but it was an attempt. We need to clarify this and make it transparent.

Carlos Weeber, Delft, The Netherlands

Yes, of course, a language is a way of thinking but Dutch people like the way of thinking of English people. That's of course the reason behind it. I want to propose the idea of who is an architect. I can tell you one of the interesting developments in Holland for the last fifteen years is that we trusted the students who just come from the university without knowledge and they just started a building, you know, encouraged by the government. That's why we have so many young and interesting architects at the moment which of course, have lot of failures but making failures, that's what you learn from. After ten years making failures all the time, you know then you are an architect maybe without failures but nobody can tell you who is an architect. But just if somebody wants to be an architect even without education, let him be an architect. It's not your problem; it's not even the problem of the school.

Loughlin Kealy, Dublin, Ireland

I find myself coming back to what are the purposes of the conversation here is and very much speaking of what Christian Huetz was saying. I find it very hard to conceive that the

preparation of an architect is something that happens in isolation from the practice of architecture, from the architectural profession and although there are many positions along with a kind of spectrum as to how much engagement there might be between the schools and profession, I think it's looking at things in a very partial way just simply look from the perspective of architectural schools alone. As a Head of a School, I find myself to some extent resisting perhaps the imposition of simplicities from the profession in the same way as I find myself resisting the self-referential nature of academia, when I am dealing with architectural education. So, if architectural schools are sui generis in their own way then we have a unique position and we have I think, a pretty difficult task to present what it is that we do that's so interesting or so special or so valuable. Other people, I don't think necessarily see it. I think they wonder what the problem is. So, I'm really thinking of what it is that we can do better together, than we can do individually because I'm quite sure individually, people they are fighting their corners quite effectively and I believe the only thing we can actually do better together than we can do on our own is we can act on better information and I find the conversations that we have and we tend to have to go on in the presence of very very partial information. We don't have the data, we don't know what we are talking about. We don't know where to go next except of what I have to think of like that. So, I see no substitute if there is a future for this kind of discussion, it has to be based on good solid information, we have to be prepared to provide it and I have my own hand up said "I didn't fill in your questionnaire. I will do it if I can have another chance, I will be a reformed character but we can't go forward without it". If EAAE wishes to prepare a position about architectural education, on accreditation for example, how can we move on without that kind of information? I don't understand how we can move forward without the basic ingredients. That's all I want to say.

I think there were a couple of efforts made to collect information here. I think that there is something missing. I would like to add something else to that information. I think that in the information is some sort from the school apart of the structure of the curriculum, the actual relationship to the profession should be spelled out as well. Otherwise, what type of professional accreditation is there, how long it takes, whether there are partial apprenticeship programs or whether people are expected to spend time in practices and so on so that we get rounded view. I looked back at Kees's diagram that is produced from John Redington's study. It was over a dozen of years ago that John Redington did that and he produced his taxonomy of the schools of architecture. I would find that taxonomy that my school of architecture actually participates in most of those quadrants to a greater or lesser extent and it would be helpful I think, if schools of architecture could find a way of charting where they are or how they participate in those quadrants so that we can actually get some, let's say, solid data, that's my suggestion. Add the profession to our discussion.

Leen Van Duin, Delft, The Netherlands

I think the discussion is rather defensive in this room and especially I want to resume something. It is easier than it looks. We have from the Bologna Declaration five years to build up a program and what we should do is to make the best program we can within the limits of five years and the relation to the European guidelines, of the European Committee. What I did in directing the Masters program of architecture in Delft was to start four different programs and there is a competition between them. We will see what

the best program is in the future. What we should do is to make the best program we can, competing with the others. Of course, we need information about what the other schools do and we can see what will be the best this year, next year and so on. So, let the market do its work.

James Horan, Dublin, Ireland

A point that has just been made by Loughlin Kealy strikes me. Indeed Laughlin's talking about the five years within the educational program and we wondered about what happens if we are working in the three plus two or working in the five. At the end of the day, if we find, as Heads of schools and educationalists that we are running into conflict with our independent governments about things like funding or whether in fact they will only pay for the education for so many years at the end of the day the profession itself, which is really an extension of education, must be the group in conjunction with the educationalists, who decide what a qualified architect actually is. In one respect, I feel almost that we were a little bit involved as Heads of schools because I don't think that a school can expect to operate in isolation from the profession. It's actually its servant.

I could ask a question starting from Alain Bridges's presentation this morning from the University of Strathclyde. He set out a very interesting scenario of what the structure of the 4th and 5th year is, how it is divided and the fact that every student of architecture is not going to become a great designer. There were a number of parts open and recognized by the profession at that point. Could I just ask another question that has stayed in my mind from that presentation this morning? When you have a reselection process for somebody to do the Masters program or enter the 4th or 5th year process what happens to the individual, who has already completed three years and does not get into the 4th or 5th year program. Where do they sit? Because, according to the Bologna Declaration, they are not only supposed to have a degree and a qualification, they are supposed to be employable and I think we must as a group of educationalists have an answer to that question. If we operate the three plus two, for example and reselect after that point we have to be able to say what the three year person is able to do after he leaves our system.

Hansjorg Hilti, Vaduz, Liechtenstein

We discussed in our school another group of students and these are students, who don't study anymore in the traditional curricula. This study may be one year arts, two years architecture, and one year philosophy. They leave school and work in some kind of a new media establishment, try to get a gain, an education in maybe some kind of engineering department. We are with one of our professors discussing to what extent our profession defends itself very much as we do here on the straight line of architectural education. He stopped from the one moment to the other, sat down, jumped up again and said 'my son is doing exactly the same; he is changing his curricula since ten years and he is doing a wonderful job. He leaves university, comes back to university and is in many different fields. That makes me think that maybe the future is a completely different thing from what we are defending and belongs to the past. I think there is another generation coming up which it's not very much interested in studying architecture for five or six years.

Koray Gokan, Istanbul, Turkey

I think we are making an assumption that there will be a structured future for us, for the future of education, for architecture. But if we look at the changes happening in the universities, vocational courses are disappearing. All architects and medicines have this problem. They have to go for vocational courses, they also have educational courses. But here we are as educationalists as academicians; we are trying to see ourselves and everybody is trying to find a formula for each architectural schools. I start forgetting the clients, the students. Shouldn't these be changed? They don't want to become architects. They don't want to have the diploma, they don't care because especially in Turkey with the diploma of architecture they can't find a job so, what they do or what we should do or we should start thinking? I think for educational services in big diversity we should provide art classes, experimental classes or architecture design studios or anything, we can think of anything we can make within our groups and then we can start thinking whether this will go on, whether this is the right experiment which we take; the art of doing experiments for the next years programs. I was asked four years ago to formulate a structure for an undergraduate school of architecture, I had a hell of a time, eight months at the end I came up with an idea of a structure. Every year I changed my curriculum after four years. I have only one structure, the content of the subjects in to the studio works and all the base is changing. I can manage it because it's a new university, nobody wonders about what we are doing.

Christian Huetz, Regensburg, Germany

I think you said something very important that the students who should leave the school of architecture after six semesters or three years what will they do. I think, I forgot something that's a life-long learning and I think there would be a chance for them. I think we could offer a better education with people that really want to study well, to do the Masters and the others who just go out and go out for themselves do something else, to work. They have the chance of life-long learning coming back as well and perhaps if he or she leaves the university, well maybe after three years she or he will come back and study for the Masters. We'll have the quality to offer the Masters. I think we shouldn't forget this life-long learning.

Ferran Sagarra, Barcelona, Spain

Perhaps, I will talk about things that don't center anymore in the discussion but I think they are important because my school is inside a Polytechnic University and that gives us some experience on dealing with engineering. I think that one of the most important things we have in common and we have to publicize is one very simple thing but very important. One is to say that the design is a way of knowledge and that is a very specific approach for architects and that's a very post-modern approach to knowledge in general. So, a lot of our students are getting jobs that have nothing to do with architecture, but that just have to do with intelligence, the capacity of understanding the world that now is in scientific change. That's very important in the same direction to say that the project is a scientific practice, it's a way to analyze, to understand but not only to understand but to change and without changing, it's not necessary to go to Mars, but without changing you are not able to think. These are two very easy statements, not easy but very simple.

I think it's something that architects must show, must explain to the rest of the people, professionals or scientists. Well, in another level the third year graduation let's say, the certificate of the title, you have the third year in some countries which can be used just for work. I don't know but that doesn't matter for the effects of architectural schools. What is important for architectural schools is that opportunity to have let's say, a unifying moment, instead of a common core, it means a moment where we can exchange students if you want because you know what they know. So, it means we have to focus specifically on the three first years, know what to know, what a student knows at this moment and this way it could be easy to exchange, to make mobility easier for our students. This cutting, this stop in the five years, I don't know in the 5th or 4th, I think 5th is good enough but it's also very important for the students now.

Now the way to measure the time is different for students and different for us. I think for us, at least for me, five years, seven years was not an enormous amount of time. It means, I have been ten years doing my thesis, well, it's crazy of course, but it was not so strange in my country at least. Now, five years is an eternity for the students. So, having this cutting it's very important in order to restart, to restart with enthusiasm because what I can say is that even with our students in my school they are very vocational. When they arrive in 4th or 5th year they are tired and so, if we could think this way, we'll restart with another enthusiasm.

Finally, I would like to say that I agree with what has been said about the information as the principal thing and the opportunity we have in meeting together. In the context of European Community, Erasmus and Socrates programs have provoked a big mobility of students. That's good not because they learn better from one university to another but because they know a city where in summer and in winter time it doesn't rain or in another where people get up at seven o'clock in the morning or this kind of strange things, where girls are easier than boys etc. That's the important fact for Socrates. But for knowledge and for our unification or our information I think what is very very important is to claim for more mobility of teachers. Not only mobility in the sense to make some meetings like this one or others that are interesting. I learned a lot from another country and another way to make architecture when I've been teaching in this country and when the problems I've got with my students there are for me to understand the problems of the city.

I want to finish by saying another thing. We are Europeans so, we are not Americans for instance or we are not Africans. That means that we have a very very strong network of cities and we have urban civilization, which is in danger. So, it's our task as architects, I think one of the most important tasks is to pre-invent and to reinvent our cities. So, well that's to say in these curricula we are discussing, I would like to put the emphasis on the necessity of not only understanding the city in a theoretical way as the surrounding of our task but just as our subject. The city, the European city is our subject even if it is a very diffused city, even if it is a post-industrial city, it's a city and it has to be really pre-invented and rethought in fact. Thank you.

Herman Neuckermans, Leuven, Belgium

Well, in fact I wanted to comment on several things that have been said earlier and I would like to relate just the opposition from Loughlin Kealy saying that we need more interaction with the profession. Carlos Weeber before said, "don't care about the profession" and Leen afterwards said "we have to set our curriculum and let the market play its role".

So, I think these are three examples of people here and if other people would speak, we would have more examples of what we are. In fact we are individuals and we are individual schools. I'm directing the program of my school and I'm creating a Bachelor and a Masters program with diversity in different specializations. What happens today? In fact, everybody I hope, is building up or thinking in the new system. This kind of meeting cannot produce knowledge that would be the basis for such a production because the production is going on. We have, anyhow, the higher European education area by 2010 so, if you deduce five years in fact, we have to be ready in this one year or two years to introduce programs, so in fact what will happen?

What will happen is shown here. Everybody will do their own thing according to the best they can and to this local conditions. My question would be and my suggestion would be: Is there any subject that we are all interested in as a whole and we are willing to work on for the future because at the same time, you know that we produce all our programs and they are different. We know it now, somebody said the first thing we do "we need information". Yes, of course, we need information but also we need to read the information but forget that because I just have here the new sheet, which is not the only information of course, but in the Newssheet 61, you have the picture of the European scene at the moment. I wrote it but it gives the eleven points, which are in the directive, which are everywhere, what are the achievements qualifying what is an architect. Of course, this thing has been written in '85 or something like that so, it needs probably an update. As I said last year, I see an evolution in the schools of architecture not everywhere but a lot of schools are moving from the education of an architect, which is completely the subject of this directive and all the professional involvements to the education in architecture, which is why there is a scope, which opens up to many different professions. So, my opinion is that we have to revise these definitions or at least that we have to know precisely what we are talking about. But it has been described well, somehow. It's not so that we have to reinvent the architect. You said you know what an architect is and to some extent we more or less know what it is, of course.

Carlos Weeber, Delft, The Netherlands

Your question about what should we do about students that leave the school after three years. There is no problem, I tell you because at this moment from our school in the old system 40% is leaving the school before finishing the education and it's not our problem and we never get any problem. Some go to study, some go to work, and by the way the BA Bachelor is not meant specially on the first place to be an end of the study, it's just a moment to change maybe from your study to somewhere else but the main idea is to continue with your study and if still after some years at a new system 40% is leaving the school before five years education is not our problem.

Kees Doevendans, Eindhoven, The Netherlands

First a small remark to Carlos Weeber. Of course, I agree it's not a problem in a system of output funding but it is your problem. Well, then of course, my impression of the discussion, we talked about this diversity, the differentiation well, that's a fact and that's not a problem, that's treasure, richness. So, what we are talking about not about this differentiation but I think we are talking about coherence, about integration and what we have in common.

Well, why do we talk about it? What has changed and I think it was from the Professor from Liechtenstein, who said that the world has changed and there is completely a new generation. So, I think what we try to discover during this discussion is a kind of new concepts for this coherence, for this integration. Several concepts were mentioned; for instance teaching of students' mobility, precise idea of what an architect is. Joined Masters is a concept for these things, the ECTS, a common kernel, the information is one of the concepts to get this integration. My impression is that we try to go beyond this stage of differentiation and that's great but how can we define and maybe not introduce a new system. There is a new system but it's not the main issue, the new system in our concepts is how we can cooperate and integrate because we come from several countries, several nations so, that's our new challenge.

James Horan, Dublin, Ireland

It is quite difficult really to draw conclusions from this discussion. I think they are really to do with stimulating people's thinking and actually arriving at firm conclusions but maybe providing us with some of the information that we need to help us make these decisions later on. In my own case, in my school, there is another school, which is located in the same building and it's a school of surveyors. Every now and again I take a cup of coffee with the Head of the School of surveying and we discuss the difficulties of running a school and I have said to him in the past that his difficulty is nothing compared to mine because he is running a farm, I'm running a zoo. It is this difference and diversity that is the natural and inherent attitude and mindset of the architect that is going to preserve the diversity of our profession. Right across Europe irrespective of what any governments say or what any declaration of Bologna tell us to do with our educational program, I believe that we will survive no matter what happens. What Kees Doevendans rightly pointed out, there is a possibility for integration between us and maybe the single greatest strength of meetings like this in Hania, is the formation of the independent networks that take place between us and individually afterwards. Thank you very much for your contribution this afternoon.

Summary discussion workshop 1 European Curriculum

Working group 1

Kees Doevendans, Eindhoven, The Netherlands

There is a need for reflection on the architectural curriculum because of the changing of context for education and research, especially the emergence of a common European Higher Educational space (internationalisation, Bologna-agreement).

The diversity of architectural education, represented by the variety of schools in Europe, is seen as an important starting point for this reflection, this variety is a fact and considered as 'richness' (Hania Statement 2001).

The tension between this variety and the emergence of a common European educational space does not lead to the necessity of a uniform or standard-curriculum in architecture, but is seen as a fruitful starting point for the exposure of the own specific curriculum-identity on the one hand, and the discussion on common, integrating elements with other schools on the other hand.

The interpretation of the consequences of new structures like Bachelor-Masters is to the schools, also the specific relation of a school to the profession, and the view on architecture as a discipline, as well the relation between profession and discipline.

In the context of BaMa it is important for schools individually and collectively to define the nature of Bachelor-qualifications.

EAAE wants to support the discussion on coherence and differentiation of architectural education in the common European Higher Education space by the development of concepts and means of communication (meetings, networks, working groups, comparative information about structure and content of curricula based on ECTS, core qualifications, joint masters-programmes, student and staff mobility-scheme's etc.).

Curricula for Architectural Education in the Common European Higher Education Area

Discussion Group 2

Coordination by

Dimitris KOTSAKIS
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Guido Morbeli, Torino, Italy

I will try a brief summary of what are the conclusions of this morning. Then there will be other speeches by my colleagues on the left and on the right and then, I think that the most important thing to do is to listen to your observations very carefully. We will try to synthesize them and then we will make a procès-verbal of the whole thing to give it then for the work of the permanent group that was suggested to us this morning. You all know the small revolution in university teaching, the Declaration of Bologna, Sorbonne etc. and of Hania last year and we know now that in some schools in Europe, in some universities the so-called BA-MA system, Bachelor and Masters is already applied, sometimes by initiatives of the single university, sometimes there are laws as I heard in the Netherlands also in Italy but there are also some opposite opinions about the system. Universities know that in the three plus two, we can have exceptions; four plus one or one plus four etc. The central problem is being right as you said of maintaining diversity. We can have very very fertile diversities among teaching in Europe because we have different law, climate, traditions etc. We differ from country to country. It is impossible to have one standard system and I think it would be very also rigid and boring. What is really making social life alive is diversity and discussion.

I take from this sheet that was given to me this morning a sensual phrase that is a question to be answered is: 'whether to pursue a universal ideal curriculum or a situation of many but qualitative identifiable curricula'. Our task of being present here we have been suggested by the coordinator Richard Foqué to have these guidelines for the workshop. I think they are very well-balanced and I say it to you there are six guidelines. The first is considerations and context regarding the subject, the second is definition of the problem area to be covered, the third is main questions to be answered, the fourth is methodology to be used, the fifth is a mission statement of the working group, which has to be established. We would like recommend to this working group to propose candidates for active

collaboration for the sixth Meeting next year. I conclude saying that I was especially, I do not expect anyone to share my idea, interested by what professor Doevendans put this morning in his speech, not to diminish what that the other speakers said but also because he presented with a written scheme, which makes the things much easier for me. From the actual points that Doevendans proposed, I choose these; I think the most interesting are admission requirements, the common kernel, the problem of generalization and specialization, the relation between the Masters and the projects of the Masters and the PhD, the studio as a location of strategy, research laid teaching etc. I want to read them out or it would be a bit boring. So, this is just to try to put a frame to the discussion. I think professor Kotsakis has something to say. He was patient to go through all the official documents of these times and also my Belgian colleague Johan Verbeke has something to add to this interesting speech of this morning.

Dimitris Kotsakis, Thessaloniki, Greece

I wanted first to make some clarifications because there is a big confusion about what is the Bologna frame. What is this Bologna frame or context within which we are working? First of all to remind you that after the Bologna it was Prague, that is, the same ministers of the same countries convening in Prague and they follow up explaining what the Bologna was and in between Bologna and Prague there was a meeting of all universities in Salamanca and then it was the University Rectors, official representation of universities, the University Union of European countries and also a meeting of students in Götenborg and these two meetings had decisions that were incorporated into the Prague. So, when we are referring to Bologna we must actually refer to the whole process and to Prague as well and we must not refer only to the ministers but to the universities and to the students. And why is that? Not only because we want to, but also because the Prague communiqué does so.

In Prague the ministers themselves said that, I read here, ministers took note of the convention of European Higher Education Institutions held in Salamanca and the recommendations of the convention of European students held in Götenborg. So, the ministers themselves recognized this as part of the process. Then they said that taking into consideration all these, the ministers supported the idea that higher education should be considered as a public good and will remain. All these words are very important because they are an outcome of debate and conflicts so, the words are important. I'm reading the document of the ministers: "it is a public good and will remain a public responsibility, which means regulations" etc, etc. Is part of the document that students are full members of the higher education community. Now, what does that mean? If you go to the two documents that the ministers are referring to, Salamanca and the Götenborg, you read in the Salamanca document, I mean the universities document: they say, they have many theses but I'll read the only one which is relevant to our discussion, which is thesis eight. Thesis eight of the universities now, (this is not our Hania Statement, this is a Salamanca statement), thesis eight: "a university may decide to structure a curriculum as a five year integrated that is unbroken program leading directly to a Masters level degree". So, all this business that Prague and Salamanca suggest that we must break our degrees is false. It's not an opinion. This is a document. Now, why a false opinion is being speculated I really don't get in to that. It is part of rhetoric, it's part of politics, it's part of power but it does not correspond to the decisions and the documents. Nobody

said to anybody to break the degrees, ok? The documents are here. Now, this is about the five year integrated and unbroken.

A second thing, which is important and it is part of the universities Salamanca Declaration is referring to the outcome of these studies. Very crucial this, it is thesis two. Thesis two says that the curricula concepts, the ideas with which we structure our curricula, should promote the life-long employability of the students and their adaptability, which means that we don't give degrees that expire, abilities and knowledge that has time span of five or six years and then knowledge is over, antiquated and then the students have to come back to the university for life-long training. We educate them so that they can have not only life employment which means that we are obliged to give degrees that have a span of thirty years not only that but to cope with change. We must give such a kind of degree as to make students adaptable, which means that the students must be able to re-educate themselves. Again five years and life-long education mean a big thing, it doesn't mean specializations.

Third point. Salamanca made eleven points, I'm reading the only three points of it. Third point, which is the first: "universities as legal entities need autonomy and want to be helped accountable for all things that define this autonomy" and this autonomy has been defined in Bologna but not the Ministers Bologna, the Universities Bologna, as independence. I'm reading again the document, "independence of all political authorities and economic power". First, that means that they should have adequate funding from the states so that they will not be dependent on economic power and second that this funding from the state should not subject the universities to the political authority. I mean it's obvious; and it's not obvious because it is written very clearly. It is obvious because later it is being specialized in terms of demands that make this clear. Second part of this autonomy is that teaching and research in universities must be inseparable. So, you don't have teachers and researchers and separate funding and that freedom in this teaching and research should be guaranteed by governments and universities. Now, this is another declaration all this is Prague Declaration so, people say well, in Bologna we decided to leave universities open to funding by anybody and then we should break up our degrees into three plus two. Then this three plus two must be specialized because this is the general directive. Nothing is more false than that.

This was the first thing I wanted to clarify and I'm talking only with documents. I'm not saying my opinion; of course I agree with these documents. I explained to you but that's beside the point. I'm trying to say that this is how we should understand that. The other thing is that when last year having all this in mind we made the Hania statement, the Hania statement did not only repeat what I've read here from the Salamanca in the first point saying five years, three hundred ECTS credit points leading to a graduate level, Masters but it also said that we need this, it explains, in order to meet the requirements listed in the above documents and the documents are the Architects Directive of the European common market, which is the famous Article 3 of the 85 Directive and then it is the UIA and UNESCO Charters. So, in fact they say we want to use the five-year education, not because only this is a university standard and so on, but because the content of this education has to apply to these requirements and these requirements cannot be met with less than five years. This is why the document says that the schools who want to break it of course they can, obviously, but they should know that the three years will not, it says 'in which case the first cycle cannot give access to the profession or an architect'. So, this is part of the problem. This is not a full clarification though because if you go to

these documents, the European Union document, Article 3 and the UIA document, you will see that there are some formulations that are very strange. For example, in Article 3 document they use three kinds of epistemological concepts, the knowledge, the understanding and the skill. For example, knowledge of history and theories, skill to create architectural designs and understanding of the relationship between people and buildings and then another directive came. An advisory committee for education and training in the field of architecture, which was in '90s that explained that this differentiation between knowledge, understanding and skill had an educational meaning and the educational meaning is that knowledge you give in lecture rooms but understanding and skill is given by individual tuition, which means that there are two ways of reading all these directives:

The one is that the education covers all six branches, which are design of buildings, construction, conservation, landscape design and town planning. This is one reading and I put the sixth, which is history and theory of architecture and the city. So, this is one reading.

Another reading of it is that you concentrated on design and for all the rest you have knowledge of. So, in fact, it is up to us, I mean the discussion starts again and why I say the discussion starts again. In Beijing, when the whole thing was put forward there is a very interesting in the Beijing Charter, it's a very interesting way of putting the question. It says that basically the general theory of architecture is an integration of architecture landscape and urban planning with or within the court of city design. This is the tradition but they say that however, the increasing scale in scope of modern development provides architects with great opportunities to deal with architecture landscape and urban planning as a whole. That is very crucial because it means that at this point the schools who want to have an integrated or an integral study of architecture and this is why it makes the difference between integral and general study they are not just keeping to the traditions, they are creating a new perspective. That is very important. Those of us who want to have integrated studies, we are not just repeating the past. We are creating a new type of studies because in the past all these were structured around design but now we have to integrate them as the Beijing charter says. So, in fact we are in a crossroad at this moment. We are not just the ones, who preserve the tradition and the others, who are in the new area, we are both in a new perspective, the perspective of segregated, specialized every five years renew themselves broken up studies and the schools who will try to see how we are going to have integrated studies. So both directions are new, that was my clarification, not only both directions are new but also both directions are under the same political frame. So, nobody has an advantage of the other. It's a choice and it is a philosophy and it is both a philosophy of architecture and studies. That was my point.

Johan Verbeke, Brussels, Belgium

I will make it very short. First, for information for the group here the Belgian and also the Dutch law at moment state that we have a structure of three years for Bachelor plus one or two years for Masters degree in which it is very clear that for access to the profession it will require the full five-years of study. But a Bachelor-Masters structure is legally in place. Then a few short points, which were also mentioned but in a wider context this morning is that I think it's extremely important to keep variety within the curricula of architecture in Europe. The relationship with the research puss at such activities needs further

elaboration and clarification. It may be a task for this group for the coming year to see if we can elaborate on course qualifications for a Bachelor and a Masters degree in Architecture. It seems that at least also in the Netherlands and in Belgium the semester structure is almost everywhere accepted and implemented. I think also in quite a lot of the Scandinavian countries. It seems that there are a lot of arguments for joined Masters and collaborations in order to exploit the different specific capacities of the different schools of architecture and a lot of issues as the flexibility offered especially during the Masters degree either we are going to fix most of these curricula or are we going to allow following the case of Strathclyde University in Glasgow almost completely different curricula for students in the Masters degrees. And then finally I want to introduce the idea, which was developed during the last ten or more years which state the difference between implicit of tacit knowledge and explicit knowledge, which is somehow written down in an explicit way available in opposite to a more implicit and tacit knowledge, which is also available. For good development of fields is important that both of them interact and enforce each other. An example of this implicit knowledge is driving a bicycle. It's extremely difficult to formulate it in an explicit way how to do this but all of us of course, know it. So, that's some knowledge, which is implicitly available, which is very difficult to forward in an explicit way to a child. A conjunction can be that within the filed of architecture this interaction between these implicit and explicit knowledge is not there in the same way outside these different fields. So, this may be something to reflect on during the coming year. I will stop here because I think it's important that the other people attending the sessions have the time to contribute to these issues.

Bernard Wittevrongel, Tournai, Belgium

I want to react on what professor Kotsakis told us about the official texts. One of the important things is that you focused on the text of Salamanca which speaks about five uninterrupted years. So, from that point of view, I think in the way it is uninterrupted the structure from three to two or two to three or whatever structure is has, it is not so important. I think that the structure three five is chosen because of one of the points of Bologna is to create certain types of mobility. So, an important point is to define what kind of mobility we want. Is it a mobility that is just a possibility for the students to consume a maximum of schools of architecture throughout Europe or we want something much more structured. And I think it should be maybe interesting to hear your point of view on what the text exactly means by that mobility because for me it's not so clear what kind of mobility is implied in the process of Bologna.

Dimitris Kotsakis, Thessaloniki, Greece

One argument is that there are three requirements for mobility. One is transparency of course that means that curricula have to be structured in a way that is readable in different cultural...ok, that's easy. The other is the structure of the curricula. That is the ECTS system; so that one can know if they've done something in one place what actual weight this has in terms of...so, this is the second. Transparency is the first. The second is the ECTS system, the credit system. Now, the third, which is part of our discussion, is whether this would be facilitated by breaking the degree in the third or the fourth year so that the students can change schools, can change universities in that level. This is supposed to contribute to mobility. One argument for the breaking up of the degree is this. Now

what comes as a counterargument is if this is possible under the question of integral studies. If it is possible that you have integral studies in all these six areas I said before and then keep this in three or four years so that you have your five, the thesis year on top of it then ok, do it. My experience from my school that we discussed this for the last five years is that it is impossible to have integral studies, which will be broken. So, I take the opportunity of this position to support the thesis of integral studies. In architecture, integral studies need at least five years. So, this is a challenge to all of us to discuss, it's a point. If anyone can prove that we can have integral studies in three years, that's ok, it's a challenge. We'll make this discussion, I doubt it very much and many doubt it. In France for example, there is an opposition to that breaking up. In Spain, in many countries so, this is the only answer I can argue on the mobility side. It is subject to this.

Michèle Tilmont, Lyon, France

I would like just to say that from my point of view the question is what could be the requirements to enter a Masters class or a Masters course. If you break the curriculum at three after that if you want to change of school, if you want to go to another school, what you will be asked as requirement? Maybe it is not so uniform all the common market. So, it will be a kind of market for students to find the place where they are accepted of course. I suppose that if you stay in the same school, there will be no problem but is that a real question? Because there can be a very strong competition between schools depending on this kind of requirements, if they are selective or not selective or depending...

Angel Luis Fernandez, Madrid, Spain

I think I can represent more or less the general sense of all the Spanish Schools of Architecture. We have been all these years in a lot of meetings just to discover this question. In our country we feel that the title of architect has several differences with several countries in Europe and all around the world as we also consider the title of architect as an integrated title that fixes all the knowledge of technical knowledge, artistic knowledge. The title is very special in that sense in relation to other countries. In that sense, we don't see any other horizon than to maintain the five years because this mixing of knowledge in one integrated thing is not possible to be explained and be developed in only three years. So, we have concluded that five years is absolutely necesary. Perhaps in other countries where you have a rather artistic sense for architecture and you have separated civil engineer and the technical knowledge from the artistic one, it is possible to have this separation. But in countries that still maintain this whole idea of architect as a mission and as an artist is really very difficult. It needs something that according to the quality of architecture we want to maintain in our country. We have decided to maintain this structure of general studies and in that case five years is the only solution.

I see also that the idea of mobility has also a very big problem because with this same idea of integrated studies that means that all, especially the technicians, also the cultural fields or the cultural routes of architecture have too many things to do with all the culture, the history, the own history of each country, the own traditions and so on but the technical questions of this subject of architecture are very related with the own normative of each country. So, the mobility does not allow student to have a real knowledge of what is the normative of his own country. In our country, all the technical subjects related to

architecture are very well developed in a number of laws, which is a very complex to understand. So that is very difficult for Spanish students to go abroad to another country and study the technical subjects, and hat's why also for us mobility has a limit; normally for one year and in that case what a Spanish student goes to study in another country is only things related to design or urban studies or things that are part of this general knowledge related with architecture. With all this I mean that I want to state here that the general sense in Spain is that we want to have a challenge, to take this challenge of the European Community and to answer that we are absolutely determined to defend a five-year course as the only solution for our cultural idea of architecture.

Dimitris Kotsakis, Thessaloniki, Greece

May I take the opportunity to say that in Britain, that they have an opposite cultural tradition and they have broken up the whole studies into building design, structural design, which is done by another profession, they have landscape design, the three designs are separate and in different professions. Three designs, plus conservation of course and planning so, in Britain that they have this, they have a problem. I know a report of the deputy Prime Minister's working party on urban regeneration the title of the report is "Towards an urban renaissance" in which they challenge the system they have because it is not good enough if you want to take responsibility of the city. So, it is more important to have voices from Britain, critical voices than voices from Spain, Greece, France and so on who somehow maybe they feel guilty for supporting their own traditions, which is not the case, I mean this is why I said we are in a crossroad now and all of us are looking for the future, nobody is actually defending the past. It's only what use we make of our traditions.

Bernard Wittevrongel, Tournai, Belgium

Shouldn't it be interesting that we take just one theme for example mobility and everybody could react what are the advantages in a certain type of mobility for the school and for the students. Because we all start from the idea that mobility is the solution and a great part of Bologna is for that mobility; because the theme is to say we create one educational space in Europe and as you said there must be a certain transparency in our education system. That is important but does it mean that we have to have the necessary mobility and what kind of mobility? I think we have all an idea on the way it could happen and that's what the speaker of this morning talked about. I don't know what he called it but the kind of joined Masters strategy are there other schools, other opinions about that, other experiences how to integrate on a very pertinent way that mobility that gives also to the schools, to the different students, those in the school and those going abroad, how we see the advantages of such a system? Maybe we could all of us speak about that them and could maybe animate the discussion. It's just a proposal.

Michèle Tilmont, Lyon, France

In these ways there are two types of mobility. There is mobility described in a few groups. It is compulsory; some of your students, maybe not all of them, have to go outside the world and there is a free mobility. It's like choosing and planning education. You have to distinguish these two things.

Jacques Gubler, Mendrisio, Switzerland

Mobility existed before the Bologna model or pattern as you call it. I think only the imagines of the Bologna pattern change the mobility as has already existed for many years. It was I think '92, since we celebrated this very year the tenth anniversary of Erasmus program. Now, Bologna does certainly mean a change in organizing exchanges among students. I think what is very interesting about mobility is that it's now part of the students' culture and it's impossible for them not to think of not only leaving a school but of going to another city or another place and study architecture from the experience of living in other place, in another city. This is how I did experience it. How are you going to implement this, is it a year, is it a semester of going abroad? Technically, we'll be part of the first cycle as one says, or the second cycle? Is it going to be before or after the BA? Is the aim to double the administrative structure because this is one of the constant problems, the management of these problems is very very complicated and then as my colleague from France said if a student is not officially sent by a school to a guest school then he will go anyhow? Is he going to be a free mover?

I don't think that one should react as our colleague did from Madrid to say that we want to form a professional architect. In this case, he must be in the country for at least five plus one year because I know the technical vocabulary, the laws will change from one city or one state or one country and what's the use of going to Berlin if you are going to become an architect in Madrid. I think the question is ridiculous because it's so advantageous to be a student in Berlin and go for a year to Madrid and who cares about the law, the Spanish law when you are a German student or about the German law when you are a Spanish student? Maybe law of course, it dominates subjects, it's probably the future of architecture is going to be law as it also was the past and the future of architecture. It was law, but 2.000 years ago. So, I think as you said you remember that the students, who gathered, was it in Scandinavia in Göteborg and probably they were the main characters in this idea to be more open. I think their ideology does not correspond to the ideology of the majority of professors or deans or heads responsible for the political justification of reforming the presence of their school within the political landscape. I don't know maybe the question is now finally how does the Bologna pattern change the way to implement mobility in Europe? Is this a question, the question was a student that, a French student has a BA in a French school, is he going to be admitted in another school to start the beginning of the second cycle, maybe the first year of...is it going to be possible for a French student carrying a BA to go on and have an MA in Spain or what would be your answer? Probably not because it's not familiar enough with the technicality of the Castilian vocabulary regarding the practice of architecture in Spain.

Dimitris Kotsakis, Thessaloniki, Greece

There is in Göteborg a comment on that. The students say that the two-tier degree system should guarantee free and equal access for all students and should not lead to the exclusion of students. Now, what happens with the three plus two? Sometimes it is a mechanism for a barrier. So, there is also a point about that. It's a technical way to exclude students so, you have a three-year general education and then you go out. So, in Göteborg this was mentioned.

Angel Luis Fernandez, Madrid, Spain

You want to know my opinion? What we are trying to guarantee is something that we find that has been marking during last years something we see as a sign of quality in architecture. We want to preserve these technical requirements. We normally don't talk too much on what the technical requirements are in our theoretical discussions and I think when we are going to talk about the quality of architecture anyway, we are not going ever to talk about the technical requirements that all architects have to take into account. But in the deep sense of what makes architecture more real, more intensive we are convinced by the technical requirements that are still very important. But this is only an instrument, it's not the debate which is about ideas of course. We know that and of course, we architects and the students may be forward in exchanging ideas in our country. That's very good of course, mobility is something absolutely positive, and we know that. I was just only saying that our entire panorama is absolutely different from the Italian area. We have exchanges with the Polytechnic of Milano, we have many other schools and we know perfectly well that. What we find as a difficulty of our students to remain in those countries going as architects with their formatting processes that separate absolutely the technical and the design process. That's something very difficult because in our country the process of building an architect is always mixing it and the results from our point of view confirmed that that's the good way. So, as far as we are not convinced of the other questions that separate technical knowledge from the artistic or design things is a good way, we are going to maintain this but that doesn't mean that we don't know that of course, mobility, of course, the exchange of ideas is a good thing. The Spanish schools are full of foreign students and we like the fact that our students also go abroad.

Guido Morbeli, Torino, Italy

If nobody wants to speak can I take the advantage to say something about my country, which has been nominated? I'm not special defender of the teaching of architecture in my country, which I have criticized in the whole of my life but as far as is this separation of design from technical methods mentioned by my Spanish colleagues, I don't know what has happening in Milano but is not in Torino. Because we are trying the degree, which the minister gave us. We have to mix several kinds of teaching in the three and in the two. So, there is not a separation between what they call technical in the three and design in the two. It's not like that, it is a tremendous work, we struggled in trying to make these programs, it took several people and more than a year to put them, it's not amusing. Also in Italy to take the three plus two is not compulsory because for example, in the Polytechnic of Torino there was a big push of the rector to make the three plus two because they like very much to follow the politics of the government of that time it was very much for the three plus two and so, we took altogether this medicine of this three plus two. But many of us were not so happy, there was a strong dispute and then we agreed. But many schools as I can assure you in Genoa, I don't know which the others are; they are still going with the five year system. So, it is not compulsory by law, changing to the three plus two. If you want the three plus two, you do it otherwise, you do the five and I want to have, just to stress out what is important.

The background of countries for making one thing or the other, the special situation and I would say the unhappy situation of Italy was that we had overcrowded schools of architecture. We had a tremendous length of studies, the average. We have a cumulative

system of examinations about 30 and so, there were some enquiries in average. They took eight years to graduate so, in average from five a very small percent to even ten years and still there are students who are having two years and say well I stop studying but, I want to start again and they restart after 20 years because they want the piece of paper but what is important to know, maybe you don't know in Italy, the lower degree has legal value so, some people take especially in the state or public bodies where you can enter by competition and if you are graduated, if you have the piece of paper of the lower you can. Otherwise you cannot enter to such a kind of job. According to your success and scores in the school, you are in the position or in another. So, this makes quite a difference, the legal value of the lower of the evaluation. And also our very unhappy situation, typically in Italy is that we have to fight for longer because there is a profession in Italy, which I think formally stopped, is the profession of geometer.

The geometer was born for measuring the fields but slowly, because of a lobbying activity, went up and up and up and the geometer came to design small houses. Italy has a beautiful landscape but some areas have been completely spoiled because of these terrific projects of the geometers. Geometer is a technical man, who gets out of his secondary school at 19 years, very ignorant, he knows very certain things and they are the kings of small towns and of the countryside. Very few people use architects because they cost more. Geometers have more reasonable fees. So, we are attached from the bottom by this geometry and from on other side by the engineers; the civil engineers, who also want to design, and for reasons that I would need a lot of time to explain, the engineer has better reputation in Italy than the architect. The architect is distinguished so to be a little bit of a mad man, who creates etc. but the engineer is a person who knows what to do and they take a very large part of what it should be our work, our domain and our mark. So, this just to say that by law as far as I know the geometer has disappeared but not the geometry, the profession. The geometers, however, we cannot kill, they are still there, they are many, they are thousands and they can make a strong lobby in the parliament, which is a help for them. My farther was an artist and he said 'Geometry my God!'

As I said whether the three-plus-two or five, we should have a reasonable length of carrier. I teach since a long time unfortunately and I was desolated over the very law passion of many unmotivated students, this is also a question of the length of the studies. So, we said well we have a terrible failure rate. From one hundred students that enter, thirty of them graduate after the five years and maybe a half or less than half take the state examination to become architects. 20% pass the examination because they do terrible design, because they also do other things while doing their studies. We had to remember the students' revolution after of 1968 etc. and the group examinations and so on. They were not able to do it because they do as the final study maybe a thesis in history or even in mineralogy and few in design so, when they then go to the State examination, there is a tremendous failure. Just to say that from country to country things can be very different so, at least this system of three-plus-two has been not so warming but accepted because we say well, people, who are not motivated after three years get out. So, we'll have in the two, what is called lower spezialistica, specialized graduation and motivated people who can eventually become good architects.

Dimitris Kotsakis, Thessaloniki, Greece

I want to go back to mobility. There are two kinds of mobility the one is the fitting into a program of courses from another university, in which case the two conditions for doing this is transparency and credit systems so you will know how to fit one course into one program. This is one type of mobility. The other type of mobility which, I'm afraid is not a tool for mobility but it is said that it is a tool for mobility is the two-tier degree system in which case you change university. The first type of mobility has only advantages, no problem. Students move and they can work for one module in another country, they go back and they give to their university experience in the role, place experience. The second type of mobility, the two-tier degree system has two problems. First is that creates two levels of schools. The second level, which is the preparatory schools and the first kind of schools, who are giving the degrees, might be so, but the basic thing is that it is subject to a very strict condition that it is possible to break your curriculum. So, in fact the two-tier system is not actually an answer to mobility. An answer to mobility is the transparency in the ECTS system. Now, I'm afraid that the case of Italy is very very interesting because of course, if you have overcrowded universities, you might use the two-tier system not as mobility but as a barrier. This is exactly what the students in Göteborg said they are afraid of; that getting to the university and then having the three years' barrier through which you are excluded from the university. So, this is a transitory political solution to overcrowd the universities; a solution that most students would not accept neither would most of the teachers. Create more universities if you want, create different universities but do not exclude people from higher education. So, this is a second kind of mobility, mobility to nothingness, I mean mobility moving out but this is mobility also not from one place to another. So, mobility is very intricate but I believe transparency and ECTS system is the basic tool for mobility.

Guido Morbeli, Torino, Italy

I just want to clarify and correct that we don't put a barrier after the three years. If they want to go on, they go on but I suppose that a student that is not so interested in architecture is happy to have a small thing and he can go out and so, we have more time and we can concentrate on the people, who are really motivated.

Dimitris Kotsakis, Thessaloniki, Greece

But if you have entry examinations that have art requirements drawing and everything then you have the motivation before you enter the university?. This is what happens in Greece, we must take exams in order to enter the schools of architecture, exams in free-drawing and architectural drawing. So, in fact you are motivated. So, there are ways. What I'm saying is that there are many ways.

Guido Morbeli, Torino, Italy

I agree with you but it would be very difficult to introduce this initial grade in Italy mostly for other than logical reasons. In Italy they have solidly the right principles by which if you entry a school with a certain system, you make a part with the school and you have the right to finish. So, we are going out with three systems because we changed it so

many times, we have three orders going on; an old order then a less old order and then a new order. So, we are operating with three systems. I've been teaching for a long time and I happen to have all three types of registrations; the students who started in 1960, in 1970 so on...What do the students who have a bachelor degree do after three I don't know because we are only in the second year. We are starting now the third. If you have patiently read my page, the order of architects is modified. We have A series, B series and we have small architects and big architects, the so-called junior architects; we have still to define what they can do or not do. But because of the problem of geometers, it was necessary to give an entry to a professional body otherwise nobody would do the three year scheme. What they think is 'why should I become geometer and make money have clients in geometry?'.... 'But if I have nothing why should I have leave?'. So, as I said there are six small orders because the order became the order of architects, landscapers, preservers and planners. What would really happen I don't know because I do not have the crystal ball to foresee what will happen in one year. Maybe this government will say that we should cancel and go back to the five years. It is possible because this government has many different ideas I might say. But students are supposed to finish the three years then they have one year if they want to go out, one year of professional training as in France and England. Then they sit oral as well as written State examinations -design and oral- and if they succeed they can get into the lower tire of the order of architects, planners etc. The junior architects are supposed to be in private practices. They do a lower level of work. They are never leaders; they always do something that somebody told them to do. Also their profession in public places includes a lower kind of functions but it is not yet defined because there is one-year's time. They will probably become employees in architecture firms. It is always better than to do what they used to do. I know people who graduated from a five-year course a few years ago and many of them I see helping in shops as interior decorators. Once I passed through the toll-post in the motorway and I hear somebody sitting in his box saying 'Goodbye Professor'. He was issuing tickets in the toll-post. I think there should be a bit of regulation of this system. Several years ago I was really amazed by a very demagogical idea about what a university should be.

Jeanne France Ruan, Ministry of Culture, France

I think we have two main problems from the reform of Bologna with the French schools. The first one is a stronger reformation for our course because you know we are the course with six years, with three cycles, the type is very different but a second question is about the level of the Masters. Perhaps you know that in France an award diploma permits the young architects to sign their projects' planning permission immediately. It's a professional level, as well as an academic level. One of the main questions in my Ministry and with different associations of architects is this problem because now what can we do with our six year-course? It seems to me that the main question is higher reformation in the course but it's not the main problem. The main problem is that of the professional and the academic level of the Masters.

Participant (It was not possible to recognise the participant through all means available)

I wanted to add right now that we do not know really what the architects are doing; we used to know in the past with the system of three, five, and eight. For example, in France we know that we are 26.000 architects registered to sign a planning permission but we

have 37.000 or 38.000, we don't know exactly how many architects have got a diploma from a school of architecture. So, you see the gap between the two numbers indicate that some architects are doing something else than just learning. So, that's the first point. The second point, as Jeanne France said, is the right to register. It's given automatically by the diploma awarded by the Ministry of Culture. So, it's a very important problem and makes the difference bigger between these figures because if you don't build, you don't need to be registered. That's the point.

Harun Batirbaygil, Instanbul, Turkey

I can explain that our situation is a dilemma; we have four year of studies towards a Bachelor Degree and two or two more years approximately -two and a half years- for Masters and immediately after graduation in both positions ministry of education or culture or whatever, the government let's say, gives the right to do architecture of any level. So, this is very dilemmatic for us because Bachelors do anything that the architects with Masters do. No difference nothing at all. So, people are trying to gain and practice architecture immediately after they get their Bachelor. That's a preferable thing which may be compared to the three-plus-two of course. Three-plus-two wouldn't give any chance for Bachelor holders, causing them to do drawing work in highly regarded offices etc. giving only the right to do architectural practice to graduates. That's levitation to a degree I think, I mean by doing so the architectural practice level is a bit limited to degree. I can't say it exactly but the situation is such because by having a Masters you have the right to practice architecture. So, this may be a solution for my country to a degree of course, but we have to debate on the three-plus-two again. Thank you.

- So, as far as I understood you have a four-plus-two system. So, six years as in France.
- Yes, not plus two. We have several schools for two years those are colleges of course. I'm not talking about that but we have four-plus-two.
- Yes but to practice the profession, do you have a state examination?
- No, we don't have. Now a recent law has been circulated but it's not implemented as yet.
- Then you can be registered architects after four years.
- Yes, after four years.

Philippe Lequenne, Grenoble, France

Just to complete what has been said by Michelle Tilmont from Lyon and by Jeanne France. I'm not defending an ideal system because our system is very critical of many things but we are twenty public schools. There is a selection after the first year and any student, who wants to do architectural studies, can do it, it's not very selective. Just after the first year and once they go through the first year it's more or less easy for students to go to the diploma. The restriction is at the beginning in most schools but not after that. Then we have a body of many architects, more than you know in other countries, such as the U.K. and they have general information and then the goal on the labor market makes differentiates the good and the bad architects. It's not the role of a school to do that, it's not an ideal system but it's a system in which we are. All the schools have the same curriculum because the Ministry gives a general frame with inspection on the curriculum

every four years. So, there is not a strong competition between schools. They have all the same curriculum of six years and what I heard this morning and what we heard from Dimitris Kotsakis, perhaps I'm wrong, is that the European Commission wants to make more difference between the schools in all Europe, to find the good schools and the bad schools, to eliminate students after three years, is that an aim or...? What is the real aim for that?

Dimitris Kotsakis, Thessaloniki, Greece

The real aim as it is put forward is that you have the minimum time of education so that you can quickly get into the market. That is stated and then you can be educated for life because you can go back and back again so, they state this flexibility and is not expensive, is cheap. This is the stated purpose to make it flexible and economic. So, this is why they say that when we have to break into three and two, this is stated in Bologna; then the three must have also access to the labor market because this brings out the reason. If you cannot have access in the labor market then you don't break it. This is why I said that the argument for mobility is not actually the stated, it uses the same purposes. The stated purpose is to have access to the labor market at every stage of the education system, secondary and tertiary. Every exit from the system should have... So, this would be again an argument against breaking unless it is a question just of craftsmanship in architectural offices. In three years you have an educated sort of secondary staff in the offices but nobody would accept that as a university education. They would say that this is a secondary technical education. It's not a university education because then it brings up the question 'what is the university level of education?', if you accept this. So, it is very complicated if you accept this answer because by introducing this kind of mobility is lowering down the level of the university education.