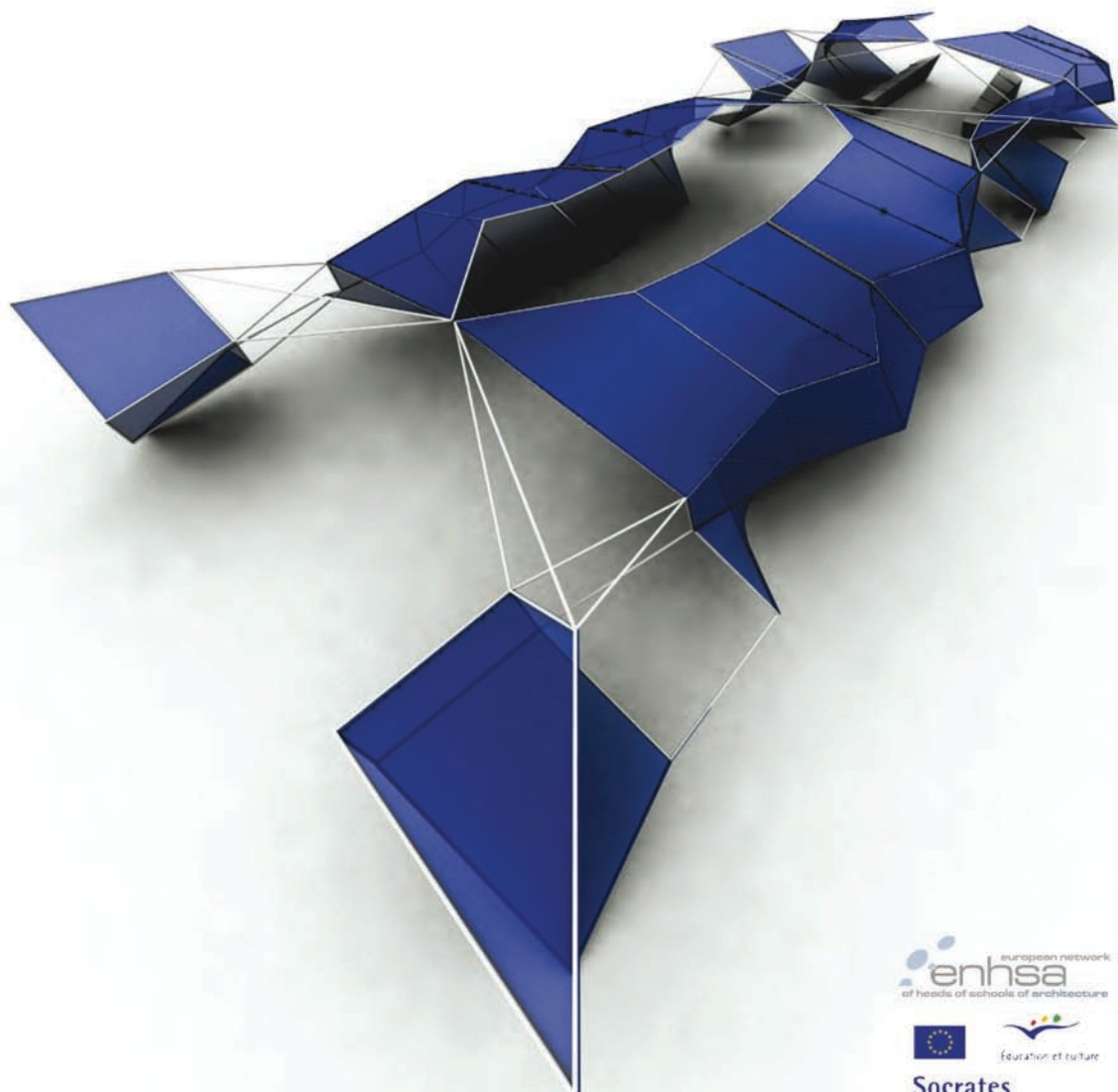


EAAE Transactions on Architectural Education no 36

NEW DIRECTIVE - NEW DIRECTIONS...

what is the academic direction of our schools in this new context?

editors : Constantin Spiridonidis - Maria Voyatzaki



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european network
of heads of schools of architecture



éducation et culture

Socrates

EAAE EUROPEAN
ASSOCIATION
FOR ARCHITECTURAL
EDUCATION

New Directive - New Directions...

What is the Academic Direction of our Schools in this New Context?

This project has been carried out with the support of the European Community
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The Meeting of Heads of European Schools of Architecture
was under the auspices of the School of Architecture, Aristotle University of Thessaloniki



Socrates

**9th Meeting of Heads of
European Schools of Architecture**

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New Directive - New Directions... **What is the Academic Direction of our Schools in this New Context?**

Transactions on Architectural Education No 36

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Despite the attempt to transcribe with accuracy the debates from the workshop, the editors wish to apologise in advance for any inaccuracies of the interventions of individuals that could be attributed to the quality of recording.

List of contents

Acknowledgements	7
Preface	8
Opening	9

Session 1

Keynote addresses

Keynote address by Alexandros Tombazis	17
Keynote address by Craig Dykers	23
Keynote address by Professor Nuno Portas	43

Session 2

Mapping

Constantin Spiridonidis

Towards a Competences Based Architectural Education in Europe	55
---	----

Discussion

Coordination by Constantin Spiridonidis	79
--	----

Session 3

EU Recognition

Introduction	93
--------------------	----

James Horan

Intervention	94
--------------------	----

Adrian Joyce

Access to the Profession	97
--------------------------------	----

Joao De Abreu Rocha

Procedure for the Publication of New Architectural Qualifications under Directive 2005/36/EC	101
--	-----

Discussion

Coordination by Per Olaf Fjeld	103
---	-----

Session 4

Relationships with the Profession(s)

Discussion

Coordination by James Horan	121
--	-----

Session 5

Graduates' Academic and Professional Profile

Introduction	151
--------------------	-----

Julia Gonsales

Competences in the Teaching and Learning Process	152
--	-----

Discussion

Coordinated by Ramon Sastre	174
--	-----

Session 6

Synthesis and Conclusions

Coordinated by Constantin Spiridonidis	189
---	-----

Appendix

List of Participants	202
----------------------------	-----

Acknowledgements

We would like to take the opportunity express our thanks to the Council of the EAAE that for one more has trusted us to carry out this mission. More specifically, we would to thank the EAAE ex President, James Horan and EAAE new President Per Olaf Fjeld for their kind support and constructive cooperation.

We would like also to express once again our sincere thanks to the President of the Centre for Mediterranean Architecture Aris Papadoyanakis, Vice-Mayor of Hania and its Art Director Dimitris Antonakakis, who have kept our moral high with their understanding and warmth throughout the event.

Sincere thanks also go to the EAAE Secretary, Lu Scholl and to the ENHSA Secretary Laura Koniordou for all her help on the preparation for the event.

We would like to thank the invited keynote lecturers and readers who prepared and presented intriguing interventions, pertinent to the themes of the Meeting.

The organization of this event would be a much more difficult task without the moral and financial support of our School of Architecture, Aristotle University of Thessaloniki and its Head Nikos Kalogirou, whom we deeply thank.

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Special thanks go also to the architect Manos Zaroukas for his work on the graphic design of the cover of the volume and to graphic designer Dimitris Apostolidis for the page layout of the volume.

Last but not least, we thank all the participants of this event not only for their faith in our efforts but also for their lively presence, constructive comments, participation in fruitful debates, and determination without which the materialization of our effort would be impossible.

Constantin Spiridonidis

Maria Voyatzaki

Preface

The Ninth Meeting of Heads of Schools of Architecture in Europe took place in Hania, Crete from 2 to 5 September 2006 and was entitled “New Directive – New Directions... What is the Academic Direction of our Schools in this New Context?”. It was addressed to those who have the responsibility for the management of academic issues of schools of architecture such as Rectors, Deans, Heads, Academic Program Coordinators and their representatives.

The Meeting dealt with important issues emerging from the new institutional framework, which concerns the recognition by the EU, of academic titles and has been formulated following the new EU Directive (in force from September 2005) and the various interpretations given to the Bologna Accord by schools of architecture in Europe. The Meeting also investigated the academic consequences on the formulation of new curricula and the emerging difficulties of their compatibility with the new EU Directive.

More specifically the issues tackled were: the Mapping of Architectural Education in Europe, EU Recognition of Diplomas and Qualifications, Graduates’ Academic and Professional Profile and the Relationship between Architectural Education and the Profession(s) of Architecture. The topics discussed were developed in collaboration with Prof. James Horan and the EAAE Council.

The Ninth Meeting of the Heads of Schools of Architecture in Europe debated upon these issues and attempted to provide answers. The broad range of schools from all regions of Europe that participated in the event offered representative results and led to intriguing conclusions.

Constantin Spiridonidis

Maria Voyatzaki

Opening Session

Aris Papadoyannis, President of the CMA, Hania, GREECE

Mr. President, dear honourable Professors and Presidents of the Schools of Architecture of Europe, Chile, Peru and the United States, ladies and gentlemen, dear friends and lovers of the science of architecture, it is a great joy for the Centre for Mediterranean Architecture to be welcoming you again to our historic city of Hania and to the Great Arsenal, this historical monument, science and exhibition centre, which is one of the architectural jewels of our city.

I, as the Vice President of Centre for Mediterranean Architecture, and on behalf of our dear Mayor, Kyriakos Virvidakis, welcome you to the 9th Meeting of the Heads of the European Schools of Architecture; an event which has become an institution for the municipality of Hania, the Centre for Mediterranean Architecture, and its organisers, the European Association for Architectural Education and the School of Architecture of Aristotle University of Thessaloniki. Our cycle of events on architecture and its education culminates today with the opening session of your conference, from which every year the light of your great science illuminates the paths for new directives and new directions. The new ideas exchanged here between countries and participants of diverse backgrounds, unite us all and expand our knowledge to new limits.

The municipality of Hania, as always, is honoured to have you here in our city and benignly absorbs a little of your light for its own progress and development. The Centre for Mediterranean Architecture, as you may know, is now in close collaboration with the School of Architecture of the Polytechnic University of Crete, and I would like to take this opportunity to publicly recognise the tremendous efforts of the Dean of the University of Crete, who, together with the Mayor and of the President of the CMA, Mr. Dimitris Antonakakis, have undertaken to stimulate students of architecture.

The Centre of Mediterranean Architecture, as you may know, also organises non-architectural events, such as last year's theatre, comic and artistic photography, music, painting and sculptural exhibitions, dedicated to Slovenian, Ukrainian, Japanese, Thai and Greek and Byzantine art and artists, as well as religious conferences and a conference on ActionAid. However, the architectural cycle began for us with a grand exhibition dedicated to the great architect Le Corbusier.

The CMA now resides here in the Great Arsenal, an edifice built and used by the Venetians as a shipyard and a fortress. In the year 1645, when the Cretan Wars started, the Turks totally disarmed the Arsenal and neglected it for at least 230 years. Then in the last days of the Ottoman Empire, it was used as a hospital and then as a school, until it was bombed in 1941 during the Battle of Crete.

The Great Arsenal, with its beautiful internal modern architecture and dynamics and the recent restoration of its facade, which was done exactly in accordance to the original Venetian plans, has found its days of glory during the last decade and is now part of a major exhibition centre and architectural plan, that includes the nearby Neoria, the Venetian shipyards, and the lighthouse across the bay, which is the city's trademark, and was lit up again two nights ago along with the old city and the surrounding Venetian old moat and fortress.

Our citizens' dream is to see our city lighting the way for the whole Mediterranean region, and from the architectural point of view I think we have managed it. And your presence here every year at this conference, this institution, which you light up every year, contributes to this goal.

I, the Vice President of the Centre for Mediterranean Architecture and all of us here today, wish you a successful conference and a very fruitful stay in our very beautiful city of Hania, the

historical capital of the island of Crete. Thank you for honouring us with your presence here at the Centre for Mediterranean Architecture for one more year.

Constantin Spiridonidis, Thessaloniki, GREECE

Thank you very much, Mr. Vice President. Ladies and gentlemen, representatives of the church and civil authorities, we are honoured to welcome you to our opening session of this Meeting of Heads of European Schools of Architecture, which as you have already heard is being held in your city for the ninth consecutive year.

I would like to say a few words about what it is that we do at this meeting, because people often wonder what is the point of gathering the same people together year after year in the same city, and they ask us what we can possibly have to discuss for nine years in a row. The truth is that we live in a time where conditions, both cultural and political, are changing very rapidly; and since architecture, as you are well aware, is a cultural dynamic, and as such is also in a state of constant transformation, education in architecture is in a process of continual change. Therefore, our concern at this time is to adjust the conditions of architectural education as appropriately and effectively as possible, both in Greece and throughout Europe; and our intention is to shape and establish those conditions for dialogue and communication that will enable us to create better conditions for educating architects. That is the central axis of our effort. This meeting is an opportunity for communication, not a political game, nor a position we want to promote. It is an open dialogue, which we are trying to maintain so that it will be as constructive and fruitful as possible.

This year, the topic that we are going to discuss is the legislative environment, the changes that have occurred within it, and how these affect the forming of new programmes of studies. It is a very important issue, and the fact that we have such a large number of participants this year is an accurate reflection of the importance of this Meeting to us all.

Thank you all once again for your presence here, and for the warm hospitality you have shown us over these past nine years in your beautiful city.

I do not think I need to introduce Mr. Dimitris Antonakakis. He is our friend, our supporter, and our host. He is the person you see every year sitting in his office here at the CMA, working hard to facilitate and assist us in any way he can in the organisation of this event. I will now ask him to say a few words – I know that he does not like to speak in public, but he has graciously bowed to our insistence.

Dimitris Antonakakis, Artistic Director of the CMA, Hania, GREECE

Dear friends, It is my pleasure to welcome you once again to the Centre for Mediterranean Architecture. I wish to thank you all for being here and, as always, to thank our friends for making your presence here possible.

This morning, as I was putting up the posters for this ninth meeting, I must admit that I was touched. And this is a feeling that, I am sure, those of you who have attended any of the previous meetings can understand. It was not simply that I remembered those happy times, now in the past, but that I remember the hopes they inspired for a better, peaceful world, a world where the public will take environmental problems seriously and where architects will attempt to serve the community that supports them with respect for society and the environment, a world where architects will try to persuade rather than impress, and where

they will take into account the needs of couples, of people who live alone, and of young folk following their dreams. And your schools, which have the responsibility for teaching them these things, will search for their own paths, retaining your differences while at the same time trying to discover the points that bring you together, gaining from this dialogue in imagination and complexity.

In these past nine years in Hania you have seen the birth of the Centre for Mediterranean Architecture, and witnessed the effort of the people who work here to direct the interest of the community towards the problems of spatial management and planning and their relationship to human mentality and culture. I am sure that you were also glad when the restoration of the Grand Arsenal was completed and the CMA was able to take up residence here. You have witnessed, and your annual Meetings have assisted, the efforts made to found a new school of architecture here in Hania, a school that has now been in operation for two years and is trying to stay afloat and on course in stormy seas. So much has happened in the past ten years, so much effort, so many hopes, and so many disappointments; and you, like us, insist on continuing because you feel the obligation to pass on your experience and knowledge to the people coming after you, while at the same time attempting to understand which, out of all the new ideas and approaches that surround us today, are worthwhile and which should be discarded, which are fruitful and which can be made so through the systematic work of a school.

And at the same time, new architecture is dynamically invading your lecture halls through magazines that talk of innovation, and of an avant-garde that, as Fernand Léger said during the CIAM of 1933, “moves so fast that it is impossible either to comprehend or to implement it”. For all the effort you have invested in your meetings here in Hania, and for all your fervour and enthusiasm regarding everything that architecture can offer humanity, I would like to thank you most warmly, and to wish that the dialogue you began in Hania nine years ago will lead you along paths that are both constructive and brilliant. Thank you.

Constantin Spiridonidis, Thessaloniki, GREECE

Thank you Dimitri. Now, I would like to invite the President of the European Association for Architectural Education, Professor Per Olaf Fjeld, and to take this opportunity to thank him very much for his valuable and consistent support throughout the year in the organization, preparation, coordination and the actual realization of this event. Per Olaf, the floor is yours. Thank you very much.

Per Olaf Fjeld, Oslo, NORWAY

I think that it is truly a belief in architecture that brings us together – the belief that schools of architecture mean something. In this belief is embedded the idea that architecture, among other things, has a capacity to move the world forward in a better way. I feel certain that we are a significant part of that movement and that search and I would like to thank the city of Hania and the Centre for Mediterranean Architecture for hosting us once again.

Some years ago, I took home with me a blue chair from one of the restaurants here, and when there was about two and half meters of snow in Oslo last winter I put that chair out in the snow to remind me that there are other worlds and other times. I say this just as an indication of what this event means to me. The work that Maria and Constantin have done here, these past nine years, is something unique and very special. Of course, they have had help in many different ways, but, even so, to do this nine years in a row, with the same amount of passion

and energy that they have put into this event, is really incredible and deserves to be honourably mentioned.

To all the EAAE members, I wish to welcome you to this meeting – a meeting that is of much importance. In a sense, its significance partly lies in the fact that we have never come here to solve problems, instead we always focus more on achieving a deeper understanding of the challenges that are ahead of us. Thank you for coming, and I wish you a rewarding meeting.

Constantin Spiridonidis, Thessaloniki, GREECE

Thank you, Per Olaf. I am sure you know that this event requires a lot of hard work and preparation and this work always needs support – moral, emotional and financial. In all these years, the School of Architecture of Aristotle University of Thessaloniki, has been a permanent source of all kinds of support and I would like to publicly thank the President of the School, Nikolaos Kalogirou, not only for the support we have received during his presidency, but also for the support of all the previous presidents, some of whom are present today. This is the ninth consecutive year this event has been held under the auspices of the Aristotle University of Thessaloniki, School of Architecture, and we would like to express our warmest gratitude.

Please welcome the President of the School of Architecture of the Aristotle University of Thessaloniki, Nikos Kalogirou.

Nikolaos Kalogirou, Thessaloniki, GREECE

Dear friends and colleagues, I would like to welcome you to the Ninth Meeting of Heads of European Schools of Architecture here in Hania. This meeting, which is being held under the auspices of the School of Architecture of the Aristotle University of Thessaloniki, has brought us together to constructively discuss the future of architectural education in Europe in the new conditions resulting from the present directives and policies proposed by the recently enlarged European Community. In this expanded community, student and professional mobility obliges us to correlate, or even standardise, our criteria for the evaluation of students and professional profiles. The Bologna Accord has been implemented, in various forms and interpretations, by the majority of architectural schools in Europe. The Thessaloniki School of Architecture, possibly the largest school of architecture in Greece, with almost 1500 students and over 100 faculty members, still follows a five-year diploma programme with a three-part structure: two introductory semesters, three years of basic studies, and one year of advanced studies including a theoretical research project and a major diploma design project.

While a diversity of approach towards the new European Directives is of course to be expected, the issues involved cannot be resolved solely through the initiatives of political institutions. European schools of architecture should play a leading role in formulating the new profile of European architectural education. The Thessaloniki School of Architecture is an active participant in this meeting, co-ordinating this discussion on topics concerning the equivalence of European architecture diplomas, the mapping of architectural education in Europe and the relationship between architectural education and the profession.

I would like, once again, to thank Dinos Spiridonidis and Maria Voyatzaki for their commitment – for so many years – to the organisation of this meeting.

I wish you all a productive and constructive dialogue that will help you come up with ideas for closer co-operation between the European schools of architecture. Thank you.

Keynote addresses

Alexander Tombazis

Architect

Presentation of the Honorary Guest by Constantin Spiridonidis

Before we proceed to the first keynote speech of this session, by architect Alexander Tombazis, I would like to say a few words.

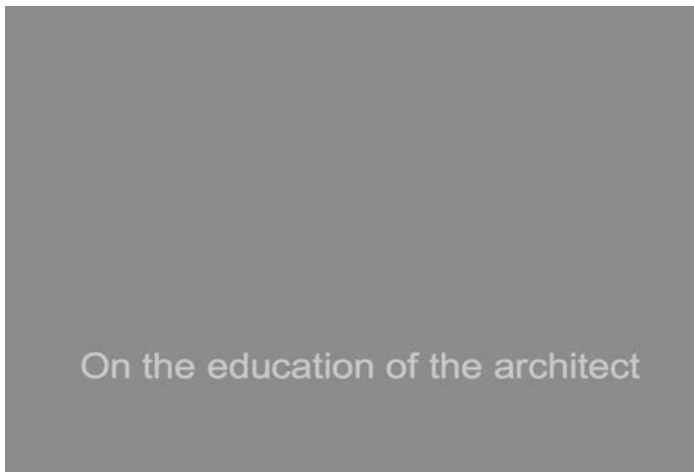
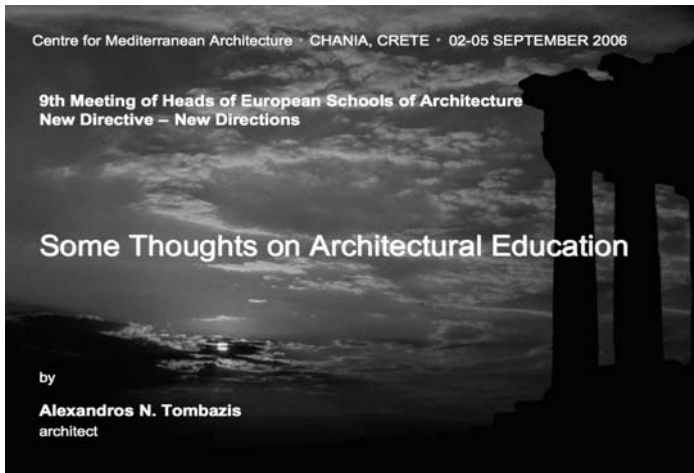
Four years ago, we had an idea that it would be very significant for us, and I hope for you as well, to introduce to you some outstanding Greek architects. That is how we began this tradition of inviting one Greek architect to be among the three keynote speakers that we invite every year to this Meeting of Heads of European Schools of Architecture in Hania. As you may remember, in the past we have invited Dimitris Fatouros, Dimitris Antonakakis and Tasos Kotsiopoulos, and this year we are very glad to have with us, Alexander Tombazis, one of the more outstanding Greek architects whose work is well known in Greece and abroad. Alexander Tombazis is a prolific architect, whose architectural practice has produced an enormous amount of work over a long period of time. I will not go into the details of his work because he will do so much better himself. However, I would like to mention that he has won 95 competitions in this country and about fifteen competitions internationally.

His work is more or less known. It covers all the spectrum of architectural activity, but for many years he has been working on sustainable architecture and energy sensitive architectural forms. For his activities in this domain he has received many international awards and I think, that for Greece, these efforts have been his most significant contributions.

However, Alexander Tombazis is also a “thinker” of architecture and as such, he has delivered a great number of lectures, not only in the different architectural schools in Greece, but in many other countries in Europe, the United States, Latin America and Asia. He has long been preoccupied with architectural education and he is an external examiner at the Dublin and Glasgow Schools of Architecture, thus he is very close to the issues of architectural education, a fact which made us all the more eager to have him here with us today.

I would like to thank him very much for accepting this invitation and for honouring us with his presence at the opening session of our meeting.

Thank you, Alexander Tombazis. The floor is yours.



Architectural practice and education were always in conflict

In ancient Greece:



παιδεία was meant as the combination of physical and intellectual exercise

Alberti: architectural design can be governed theory...



Ludovico Corri da Cigoli, section Dome Florence 1610, Archives Museum Florence

Detail model for St. Peter Rome by Antonio da Sangallo, Junior 1539-1546

Filippo Brunelleschi, Dome Cathedral, Florence 1466

...because it can be related to ideal volumes

Academie Royale d'Architecture, 1671
Ecole Royale des Beaux Arts, 1819
A reaction to the guilds



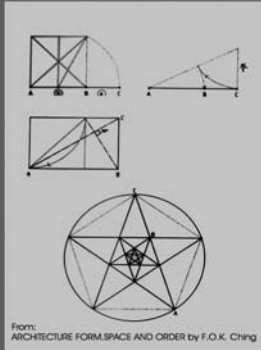
Woodmaker Syndicate, Rembrandt Van Rijn Royal Museum Amsterdam 8/95



Villa Barbaro Maser, A. Palladio 10/90

Teaching distanced from practice,
just as today

Bauhaus: a broader but also more abstract education...



From:
ARCHITECTURE FORM, SPACE AND ORDER by F.O.K. Ching

...incorporating the other arts



Mies Van der Rohe, 1926



Villa Mairea, Garches, Le Corbusier 1927

We still continue today to have
a bypole system:
theory and techniques
versus composition

1. SPACE WITHIN A SPACE



2. INTERLOCKING SPACES



3. ADJACENT SPACES



4. SPACES LINKED BY A COMMON SPACE

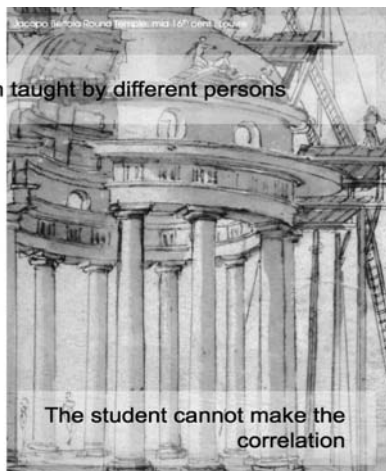


From:
ARCHITECTURE FORM, SPACE AND ORDER by F.O.K. Ching

Theory and composition taught by different persons



Federico Barozzi Tempietto del Gallo
Palazzo Medici-Riccardi, Florence



The student cannot make the
correlation

Composition devoid of practice



Giacomo della Porta, Luigi Vanvitelli, Michelangelo
St. Peter's dome (St. Peter, Rome 1550-1561)

Architectural education needs much more than just skin -
deep references



The teaching of **theory** must be incorporated
with **studio work**



Picture Shop Of Ambrose Vollard, Pierre Bonnard (1867-1947)

The teaching of **studio work** should coincide
with that of **theory**



Graig Dykers

SNØHETTA Architects

Presentation of the Honorary Guest by Per Olaf Fjeld

I was asked to say a few words about our next keynote speaker, Craig Dykers. He is the lead architect of SNØHETTA, which, as many of you probably know, is an international office that I imagine is still best known for the Alexandria Library. Now, among other things, they are in the process of building the Oslo Opera House and they were also fortunate – or unfortunate – enough to win the competition for the site of Ground Zero in New York. And apart from such famous projects they have also designed and built things all over the world.

But I also remember that Craig and SNØHETTA have not always been this way. I remember that for many years their office had no work at all and although it was a struggle to survive it was also a time in which they could form and shape their attitudes towards architecture, and I think that it is the ripening that occurred during that time that has played a very important part in the growth of this office.

As for Craig Dykers himself, he is a person who has many different interests on many different levels. It seems he has talent and creative energy without limitation, and I know that he has a genuine interest in people and that his work related to this interest is always focused on the greater understanding of people in general. In other words he has an awareness of what is going on and he is always curious to know more. At the same time he is very much a private person, who takes his notes in Chinese.

Please welcome Craig Dykers.

Thank you very much for your nice introduction, I too am very proud to be here. So many schools represented in the audience – I feel my talk will be graded. I was asked to come and talk about our work and I am going to do that, but first I thought I would present a couple of points concerning education that I have roaming around in my mind.

I do not get the chance to teach very much, I mainly practice and it takes up a lot of my time. I do teach from time to time, generally short workshops and things like that, and I always enjoy it, especially meeting the students and hearing what they have to say. One time, I was asked to talk about education at one of the workshops I was giving and I had read a quote by Robert Rexroth, a poet from the U.S., that fascinated me: “I write novels for my ego, books for money and poems to seduce the opposite sex”. I translated that, of course, to architecture, so that it read “I make architecture for my ego, buildings for money and drawings to seduce the opposite sex”. And I said to everyone that, probably, you cannot do architecture, you cannot want to make architecture for any of these reasons – these are not good enough reasons. On the other hand it is a reality. I mean, some of us, do one or various combinations of these three things for various other reasons, but some people, and I think maybe the majority of students, never get to enjoy any of these three things; they simply end up making stair schedules or production drawings, and a large number of the graduates from schools never see the world of architecture as they are led to believe that it is. So there is a whole range of intriguing motivations for learning architecture. I think that in a sense, you sort of have to cross these things off a list, all three of these, but recognize that they are nevertheless a reality, what we do. We do things for motivations other than what we expect.

A second point, I remember reading an article some time ago about the beginnings of colleges and learning institutions, before printed books were available to the general population, and essentially universities were created because people did not have access to written texts, so someone who was fortunate to have a book or document would read it out-loud to everyone in the class and they would take notes on what that person was saying. Then the printed press came along and more people had access to books, but I think that some teachers still believe in the old system, where they stand up and just read a book out-loud to everyone – a book that anyone could just go out and purchase and read at home. And so sometimes there is a kind of tragedy of interactivity in education that I think is troubling. So these are my two little points about education.

Now, to discuss our work. I would like to start with a story. Narrative to me is very important and I think that there is always a version of some narrative at work in what we do. This particular story was given to me by an anthropologist – sometimes I fancy myself an amateur anthropologist and I have a love-hate relationship with anthropology. Incidentally, you cannot have a discussion with an anthropologist because if you ask them a question they always return with another question, like “why are you asking that?” – it is a bit like talking to a psychiatrist. Nevertheless they have a tremendous wealth of information that I think is often overlooked by architects. This story was about a group of individuals that live in the southern part of Africa, and they were a nomadic culture that moved from place to place gathering and hunting, (and I think that the correct terminology is now “gatherer-hunter” not “hunter-gatherer”, because they spend a lot less time hunting than gathering). These people have a fairly idealistic and simple lifestyle. They are able to traverse the landscape very quickly and they build shelters

for themselves from the materials they find in their surroundings. This is a little grass hut that they made (picture) in this particular area, and you can see that the architecture itself is quite straightforward but that there are a few things here that are more architectural than instinctual; this little bundle of reeds for example that they place by the door to mark the entrance. That is something that did not necessarily have to be done, but was done as a part of an emotional content related to the structure. There is nothing unusual about that. Such post-marks, that bring the architecture from the world of function and instincts and shelter into the world of emotion, can be found in front of various structures around the world. What is interesting to me about these people is that when they do not have to build a shelter because the climate is just right – the sky is perfect, the temperature is nice, no threat of rain, so no need to build a hut – they just sleep out under the stars, which makes sense, but instead of simply just finding a spot and laying down a blanket and sleeping there, they actually perform a rather unusual ritual in which they carve the plan of their hut and sleeping space into the sand with a stick. They literally make the plan form in the ground and then they lie down in it. Even in this plan that they scratch out of the ground, they leave an opening for the door and what is most amazing is that they actually move back and forth into the space through this little opening. They even carve two holes in the ground to mark the postholes next to the door, and at night when they sleep, if they have a child they will place it in the centre to protect it. And this is really amazing because there is nothing that would keep an animal or any other kind of threat from simply stepping over the line, but they do it anyway. They do it because they believe in the power of the places that they make and it transcends the need for function and it becomes a purely emotional endeavour. And I think that to some degree we have to recognize that in the character of the buildings that we create; the immense power that they project and the impact that they have upon our lives.

Even more fascinating is the fact that occasionally these people come together and make small cities, short-term towns, which they only stay in for a little while and then leave. But again, if the weather is good they just make these lines in the ground to show the town, even though they are not going to build it. And these are intensely meaningful places to them, although they may only have a short-term connection to where they are. I think that what is the most intriguing thing to me is the line in the ground, which separates one person from another or one person from its context. And this is a constant also in the things that we do, we are often separating ourselves from others, and I always wonder who the other is, and I know that if you have read Roland Barthes or others like him that you will ponder this question yourselves. I remember some years ago, a friend of mine opened a bar and he had to put up the signs on the toilettes for men and women. He did not want to put up signs but it was obligatory, so instead of putting up “Men” and “Women”, he wrote “Us” and “Them”, and there was this constant kind of fear, “Am I one of us, or am I one of them?”. But it is a kind of simple and odd question: why are we not the other and who is the other if not ourselves? And this important question can have an impact on the things we create, as well as on our interaction with one another as we move through life.

As Per Olaf said, I became rather keenly interested – and I was not aware that people knew about it – in this work that I am dealing with from time to time, which is just a general interest in people. It began when I saw some images by Walter Evans, the famous American photographer. (These are pictures from the 1940's outside the Staten Island ferry). There was something that he and others like him have said, that just by looking into the faces of people we begin

to understand who it is that we are and who it is that we interact with. There is a literal link between the visual character of the places and people we see and how we interpret them. So I somehow started to think about this and I attempted a lot of sort of voyeuristic insight into people and here are some of the pictures that I have taken – I travel a lot around the world so I will just show you some of them (pictures). I have hundreds of these pictures, these are just a few. Somehow, looking into the faces of these people connects me to my work. It has for so long now been an idea that people are an abstraction in architecture, that they are something that fills the architecture up after you have made it. So I am going to take a direct approach to simply understanding people and observing them, not in a way, I hope, that takes away from who they are but rather that adds to what they are. And of course you cannot understand people without understanding the artefacts that they create, and the enormous amount of material they generate. So here are some pictures that I have taken of stuff I have seen all over the world (pictures). People generate vast quantities of stuff and I think that this probably suggests that if we are going to talk about people and discuss people then we should really understand our roots and where we come from.

It appears that humans have existed in various forms for millions of years and really it is only recently that we have become what I would say domesticated, our gathering and hunting lifestyle existed easily for 200,000 years in its modern form and before that another 6,000,000 years in other types of species which we are representative of. There is a difference I think between hunting-gathering and domesticity. The primary difference also has to do with the notion that hunting is kind of an intuitive skill. Even the best hunter will tell you that they are never one-hundred percent certain that they will catch their prey because the prey has a mind of its own and it could move one way or the other, and you are only using your best ability to guess which way it might move, if it moves at all, so that there is a kind of intuitive motivation behind hunting. Domesticity, farming, agrarian culture, on the other hand, is based on predictability, the fact that we know the seasons in a very clear way, the time at which the sun rises and sets is very important, even to the point where we have to know it by matters of seconds or minutes. These two worlds have collided in contemporary cultures. All of us, who are of course representative of those who preceded us, carry within us these two sensibilities: the sensibility of intuition and the sensibility of order. If things get too ordered in our lives then we kind of go crazy and take off our clothes and have a party, but if things get too chaotic then we look for something that we can hold onto and say, “This I understand”. The modern mind is of course the journey between these dualities. We see this in the things that we create, in landscapes, especially, and cities, in how we order these places or try to make them disordered. We domesticate buildings in the same way we domesticate landscapes, so that we can understand the order of things around us and of course we try to define things that are not particularly easy to define.

Landscape is a common topic of discussion in our office, and you might say that this area here in this image is natural landscape and this is humanmade landscape, but the reality here again is that all things are landscape, even the cracks and the curbs in the sidewalks are a form of landscape. I somehow believe that even people are a form of landscape, we are just moving around a little faster than the rest of the landscape around us.

So all of these stories seem to suggest that there is a relationship between the things and the narratives that we create and the things that we create as a result of those narratives. I like to say that a story draws on the relationships of the landscape of place and projects these relationships onto the landscape of the mind, and somehow that interaction, the interaction

between the interpretation of reality and the physical structure of our minds, is important in how we work. The story that we know most is of course the place where we live, the planet that is called earth, and which we think we understand – especially now because there have been photographs taken of it by astronauts from space. We see that it is a pretty simple spherical form, spinning in the blackness of space. It is something that you could describe to a child and they probably would not have difficulty in understanding. The idea of what a planet is, is not something that is unusual to us, but if you take this and project into a larger context you see planets exist in galaxies and galaxies in clusters, and if you map these clusters throughout space you have a map like this (picture). This is a computer-generated version of a map which has been created over the last sixty years by astronomers and it maps galaxy clusters over hundreds of millions of light-years in space. So this is essentially a picture of our universe. This is the largest object ever seen by humans and in a way it represents such a shift in thinking about who we are and what we are as at the time when people began to understand that the world was not flat but round.

This map says many things. It says that our world, the context that we live in is actually quite fluid, very dynamic and ever-changing, and one of the things that I find really fascinating is that although this map was made by very intelligent people, they have amazingly put us, the Earth, right in the middle, so somehow people still see us at the centre of everything, even though this map should suggest otherwise. All of this has to do with time, and of course time is the lost partner in architecture, it is the thing that is overlooked, it is generally relegated to notions of architectural warranties or schedules, things like that, but of course time plays a factor in all of the things that are created. I like to ask students some times to just imagine a picture of the sun in their mind, and most people will have a picture like this, a kind of glowing golden disk in the sky, but if you were to open your mind up long enough of course the sun would cast an arc across the sky and each day, as the seasons passed, the arc would shift. So in a sense, if you were to imagine the sun, it should not be a disk at all, it should be a kind of dome of light all around us. But it is difficult for us to think about things and time in that way, our brains are not wired to think in time, we are meant to think in moments of time and that is why we create calendars. It is an odd thought. Why should there be a difference between one day and the next, from one month to the next? There is no division in time, but we need that division so we can create an order within it.

This complexity of understanding time of course leads us to a very difficult understanding of history, so we tend to think about history in moments of time that are clearly separate from the future and certainly separate from the past, but the reality again is that all of the things that we do exist in a fluid understanding of time and the dissection of those moments in time can often create problems in how we react to the world around us. This issue is often seen in theoretical discussions, in debates on what is modern and what is classical. I always like to separate modern and classical into the avant-garde and the derrier-gard, because somebody has to look in front or over our backsides, just in case. For me it is a discussion of what is familiar and what is unfamiliar; things that are familiar tend to be called classical and those things that we have not seen before tend to be associated with modernism. Over time of course they become familiar and they move or transcend categories.

These discussions are related to what we call function and aesthetic; we often think that function is a fact and aesthetic is a fiction, but this is not real either, I think there was a comment yesterday, something like “beware of the form-givers”. Yes, of course, there is a kind of strange-

ness to creating form, but the fact is that we respond to aesthetic in a way, which makes it a fact, it just cannot be ignored. There is always an aesthetic. Whether we pretend that we are giving it form or not, we always are. Those forms are created by things that are transported from one place to the next, a hole in the ground means a brick and a building somewhere else. We also try to associate these notions of understanding with the environment and now we have tremendous amounts of discussions about sustainability and about environmental aspects of architecture and ecology. I am always fascinated by this discussion, and I have been asked to talk about it many times, and one of the things or facts that I dug up awhile ago which was really quite intriguing, is that it takes about 19 tons of raw material and embedded energy to create a car, whereas a car weighs about one ton. So essentially if you make a car you throw away 18 tons of material in the refinement process. What is more surprising is that it takes 25 tons of raw material to make one personal computer, which is just amazing because a computer weighs a couple of ounces, so you know, 24.999 tons of raw material are thrown away in creating the little power PC that you have on your desk. It is just incredible!

I remember learning that fact a bit before I was asked to give a lecture about sustainability. I had also recently read that riding in a transatlantic airplane flight uses enough fuel to drive a car around the world four times, so there I was, with my PC next to me, sitting on a plane crossing the Atlantic to go and give my lecture, and I was thinking that with the amount of energy I was wasting just to go and talk about environmental sustainability, it would have been more environmentally friendly to stay at home and burn plastic bags for a month! So in a way these notions of sustainability are really wrapped up in notions of goodness and we have to escape that. We have to understand that architecture inevitably will rape the landscape. It is transposing the landscape. We have to, I think, look at it in different terms and I will talk a bit about that in a minute.

Now about our work. First I will talk about our office, SNØHETTA. It is named after a mountain, not after a person or a place. People often come to me and say, “when can I meet this Snøhetta person, it must be someone much older than you”, and we always have a kind of discussion about what it is. The mountain is attractive to us for many reasons, it is quite a beautiful mountain. It is where the mythical home of Valhalla is meant to be and around this mountain is where Peer Gynt is set. I think the storyline there is that if you tell enough lies your soul will end up in this mountain. But really it is more an understanding of landscape and of architecture that intrigues us and the mountain somehow represents that. But it is also a way of removing ownership from our office, we do not like to try and associate one person with a design, we are trying to make it a collaborative environment and as soon as you put your name on the sign people start looking at you as the owner and it changes the dynamics in the office. People will not take it seriously unless we climb the mountain once in a while, so about once a year we climb up Snøhetta, the whole office.

We are a pretty young office. I would say that we are about fifty percent male and fifty percent female. We are from about twelve different countries and four different continents, and I think there are about six or seven different sexual preferences (I’m starting to lose track of that one), so there is a kind of idea of diversity in the office that is very exciting to most people. We are about seventy people now, so we are quite a large company, and we are working on some very large projects.

One of our offices is located in Oslo and here you can see that it is quite close to the centre of things and we have opened another office in New York, which is a little bit further away from the centre but we can manage. The two offices work in tandem with one another and we are trying very hard to keep them close. Our office in Oslo is located right at the tip of the peninsula looking into the Oslo Fjord. This is a picture of Oslo and our office is here, it is a kind of a warehouse building, which we cleaned out and took over – knocked out a few walls and put some glass in, pretty simple. The office space is quite open. Many people ask “what is your most difficult project?”, and I always say it is the office. It is really easy to open an office, but it is very hard to keep one open and that seems to be the challenge every day, more so than any of the projects. We have a kind of an amphitheatre that we built into the office. Once every two weeks everyone sits in the amphitheatre and we talk about events that are occurring in the office or projects that we are doing. Everyone has an open desk so there are no closed rooms at all, so as you can see everyone sits in this space here (picture), there is nothing outside this space for sitting. It is not organised by project, it is kind of randomly organised, occasionally these big boats float by, and that is really quite spectacular, and something which you would be familiar with here in Hania.

Our office in New York is also situated at the tip of the city, right at the bottom; we seem to be on the fringe of things. It is on Battery Park, at the very bottom of Broadway, where you can see those yellow windows (picture), right behind where everyone takes a picture with the Bronze Bull. (I can tell you, after being there for a while now, there are equal numbers of people who take their picture at the front of the Bull as on the back side of the Bull, so that the ass of the Bull seems to be very important to some tourists). The space that we are in is bizarre. It used to belong to the Cunard Line, which is where you bought your tickets to get on the Queen Mary, and now it has been completely emptied out so no one is in it except for us. It is really spooky, like being in a ghost town. So there is no one using this at all (picture), it is just our office, and we sort of took over a mezzanine and we work collaboratively in that mezzanine on the projects that we do. Everything is done in a collaborative environment including the formation of the competition teams themselves.

So the first real project I will show you, which is the one we are most well-known for, especially in this region, the Mediterranean, is the Alexandria Library in Egypt. This was a competition that we won in 1989 and so it was some time ago. All of us were under thirty when we won this competition. I was twenty-eight and none of my partners were older than thirty. I remember it was a little frightening – a 300,000,000 dollar job thrown in your lap at the age of twenty-eight. And when we went to receive the award, we got out of the taxi at the ceremony and they said “Well who are you?” and we said “We’re SNØHETTA” and they said “Great, and where is the architect?”, and we said, “We are the architects!”, and they looked at us as if to say “you’re too young to be the architects”, and our response was “Well it is a good thing we are young because if you choose anyone older they will be dead by the time this thing is finished”. And it was true; it took twelve years of working on this project every single day to complete it. It is quite a large project, about 80,000 square metres. No one knows what happened to the ancient library of Alexandria, there has never really been a clear explanation of how or why it disappeared (most people seem to think that Elizabeth Taylor had something to do with it). But it is a complex problem, because it is directly associated with history, while also understanding the contemporary condition of Egypt in the Arab world. Most people know about the Alexandria library from childhood stories, etc, and can relate to it, so it was impossible to really put forward

an image that would satisfy everyone's idea of what the ancient library was like, or what the new library should be like, and whether it should represent our historical understanding of the place. So we began to look more closely at the site. There was the intriguing idea that really we were walking literally on history, especially when they cleared off the top layer of soil and found human bones, body fragments, clay tiles (picture). In such places, you are overwhelmed by the notion of history and if you are not careful you will become its prisoner, and this is a problem because it contains your life and the feeling becomes so powerful, especially when you are walking on the bones of the deceased people, that this is something that we have to protect, but we should not allow it to rule our lives.

The site for the project, the grand circular form that occupies the centre of the city, the ancient harbour of Alexandria, is very similar to the harbour here. This is where the ancient lighthouse of Alexandria once stood, one of the Seven Wonders of the World, and our site for the new library is here. This harbour has been in continuous use under different names for 17,000 years, which is really quite exceptional, although in this setting that we have here today it is not all that strange since I am sure that the harbour here has been used for nearly as long. The circular form had a tremendous influence on how we understood the project and we began to sketch things that seemed to somehow link the building to the harbour, this kind of empty space in the middle of a chaotic city of four to five million people. We found that the circular form has relationships to history and to culture. The geometry also lends itself well to understandings of contemporary technology and of course it returns again to this place where we live, the Earth, which is the circle that we know the most. Interestingly though, although the Earth is a circular form, we experience it as a flat horizon, and that horizon has dominance in our understanding of the earth we live on. We separate things above and below the horizon, and we certainly separate the earth from the sky above and below the horizon, and those two simple distinctions have become imbibed with philosophical meanings, so that the sky in many cultures represents the future and the ground, where we bury the dead, represents the past, and everything that we walk on, the horizon, is the present. We wanted to bring this forward in the architectural design, so the building itself simply takes the horizon and rotates the horizon that we ordinarily walk on and removes the ground, and this became a section through the building. It is a section through a moment in time as it descends into the past and ascends into the future around the point where you enter the building, which is the present. And it shows itself in a very simple and direct way.

The building has a very clear and iconic form that is easily understood, but more importantly, it stands apart to a certain extent from its surroundings. At night it changes its character, it has a different sort of feeling as the sun moves across the building from day to night and throughout the seasons. The building is about 160 meters in diameter and this is looking towards the roof (picture), towards the sky. Each of these skylights allows indirect natural light into the building, and as it cuts across the urban landscape it creates new ways of seeing the city around it. And you can see here what is spectacular I think about the building and that is that it seems very small. So it is an 80,000 square metre building and it is actually lower than many of the buildings around it, which are only 1/10 the size. To make a large building small is really very difficult and it was one of the things we put a lot of attention to. Here you can see the scale of it. These are the construction workers up there working on some of the panels of the roof (picture). It is a kind of campus plan set against the harbour and at times it reflects the sunlight toward Europe. As the building rotates and lifts itself out of the ground, it pulls with it the geol-

ogy of the landscape of the place that it sits within. So these granite stones were carved onto the perimeter of the building. They are very large, to give you an indication of the size this is about two metres high, each stone is about two metres high, so a person standing would be about this big – I am probably down here – but most people would be somewhere up there. And the letters are carved from alphabets from over 10,000 years of history, covering some 500 different cultural groups, and it took us nearly six years to research these characters and each one is unique, each stone is unique. We were somehow inspired by the Rosetta stone and the capacity of it to allow translation between languages. Here is a picture of the building taken from a lower position, where you really start to feel the position of these letters. The stone itself had been carved from a quarry that had been dead for 600 years in the southern part of Egypt. We brought the quarry back to life, and this was the same quarry where most of the stones of Luxor were made and produced. So in a sense what you see here is 4000 years of history sitting side by side.

There is an interesting very low, very sedate entry that starts to give you a notion of what is happening inside the building. You enter into a very quiet, very cool lobby which takes you through a very tiny entrance into a staircase which leads you onto a balcony, and from that balcony you are given a view of the main reading room, which is the largest library reading room in the world, it is about 3,500,000 cubic meters of space. It seats about 3500 people and it is an enormous experience to be in this space, and again while it sounds very big, it actually feels quite intimate. And I think this feeling is due to the column grid and the terraces that occur which allow you to feel only the space that you are in rather than the totality of the space. There are enclosed reading areas, acoustic baffles, which help hold the sound in the space. We had a big discussion about whether or not the building should be about books or alternative digital information sources. In a sense we recognise that information is changing all the time and that the building itself would have to accept those changes. It is designed with handicap ramps so that people in wheelchairs can move around, something that, for the first time in this part of the world, was really considered as a serious part of the building industry. We were inspired by Islamic design and their repetitiveness in architecture and we also designed the furniture, which was essentially like designing a city plan. There are these pieces of glass in the ceiling, 10cm thick pieces of solid coloured glass and as the sun moves through the day these colours wash down onto the floor and move across the room as you are reading, and it will eventually move across your desk. It is used by about 10,000 people a day, so it is very heavily used in the area, and we are quite satisfied with that.

When we did the project we worked with about 250 different organizations, from national and international organizations to local ones. We tried to make a list of all the people we worked with but it was not easy. This is a partial list (picture), but it goes all the way from Princess Caroline of Monaco right down to AntiSeamex Pest Control, which is a company we used to keep the rats off the construction site. So there was an enormous range of people that we were working with.

I will first of all show you a film, if I can, before I move on to the next project. I think it is important to be able to see the building in time as opposed to still pictures. The context is very similar to where we are today. It was built over a six-year period, there were 2500 workers working 24 hours a day for four years. The foundation system alone, which would cost about 70,000,000 dollars today, was poured in one continuous pour, the largest continuous pour of concrete in the last 50 years (all that circular form was done in one pour). About 90% of the

workers were local, and if you exclude the mechanical and air-handling equipment, about 90% of the material was produced locally. We set up an office in Egypt and we worked with local Egyptian architects. The construction crews, being Egyptian, had their own way of working. They always carried everything. So even though we had cranes on the site that could lift anything heavy, they never used the cranes, they always carried things by hand. The facade is 6,300 square metres of hand-carved stone. Here you can see, (picture) there is someone carrying something, while here in the background you see the crane standing still. What is amazing is that it is a purely modern building, an absolutely contemporary building, built almost entirely by hand, without the use of machines. We had a serious rat problem, 2500 people leaving their food everywhere, so there were so many rats you could hardly work. And we tried poison and everything and nothing worked, so the construction workers brought in their cats. So we got rid of the rats but then we had this cat problem for about five years.

These columns are about 20 metres high and the sky-lights are designed to point northward so that they only catch indirect light. So although these lights are on in the picture you do not need any artificial light in the space at all, it can be entirely lit by natural light. There is task lighting on the desks, and that is all you might need. The columns are designed to capture the light. You see how the light comes down the column? There is a stainless steel strip that helps move the light down the columns. The columns themselves are light-features. This little eyelet strip of glass is to make sure there is no direct light coming in to the room at all. All the services are in these beams, which are ten feet deep, so around 3.5 meters deep. Here you can see the coloured light coming down onto the surfaces, it is also a blue light but blue does not photograph very well so you cannot see it in the images. There is a distinctly Mediterranean quality to the building, because initially Alexandria was not an Egyptian city, it was a Mediterranean city. This is a science museum that sits outside the main structure. The city in its contemporary form was built by Greek, Italian and French architects. These stones are not cut, they are split. You take a big block of stone and you just split it, and the split becomes the actual face of the stone and this is why they do not match. They are monumental, each of these is about 30cm thick, and they hold up their own weight. The carvings were quite complex and we even negotiated to have Hebrew inscribed on the wall. The stone is quite a contrast to the technology of the roof, so the building is both antiquated and contemporary, two different worlds having come together in one place. And it is just across the water so you could go there some day.

So the building was scheduled to open on October 11th 2001, a very inauspicious time to try and open a building, especially in the Middle East region. Being only one month after September 11th, no one came to the opening. And in a way it was a kind of tragedy, that we had worked for so long on a building that was meant to represent a bridge between eastern and western cultures and between the Arab world and Europe, and that it would have such unusually tragic circumstances surrounding its opening. So we were depressed when we finished the building, and we also had the feeling that we would never get another building like that; such a project is like going to the moon, where else can you go after that? So there was a kind of depressed feeling in the office but then we won another competition, which was in our backyard, the National Opera of Norway, in Oslo, and that really changed the character of our office.

That project is actually sitting right against the water in Oslo on the Fjord. Our office is here, so it was literally in our backyard. We were given the commission after an international competition that was again anonymous. Once more it was an exciting time for us, moving away from the Alexandria Library and into another world. This was again a public building. It is partially

on land and partially in the water. That is the site there, it is kind of a wasted area in the city, a place for cargo ships to leave their containers and so on and so forth, and the opera was meant to be a kind of link to the older, not the oldest part of the city, but the Danish and Swedish area that is the contemporary centre of the city, more so Danish in plan. And here you can see the area's recent industrial past. And our building then somehow addresses the link to the city and sits partially on land and partially in the water. It is accessed by a bridge that crosses a small canal that we have made onto a rather low form. We worked with a low building so as not to divide the city in half. A lot of the architects who entered this competition, including very many famous names, all worked with a very tall, very dynamic sculptural form. I think that every time an architect gets a commission to do an opera, they immediately think I have to pull out the book of inspiration and make something really great, so that everyone will walk by it and say "God! What a great architect!". So, what we tried to do was to push the building down a bit and make it fall out of your awareness of the city and actually become a link between different parts of the city. So it is rather low, it moves with the nearby landscape. It is an extension of the nearby landscape as the hills sort of merge into the building and the building lies down and actually dives straight into the sea. So it is a place where you can ramp gently into the ocean, you can physically touch the Oslo Fjord here, which engineers have been trying for twenty years to make sure no one could do.

The building is split into two parts, a kind of back-of-house part and a front-of-house part, and we were determined not to mix these two worlds. As you see it in its surrounding landscape, the building seems to sort of connect the world of the Fjord and the world of the land, the city and the urban landscape with the industrial landscape, the idealised imagined landscape. I mean, the reality is that very few people actually use the opera and so people complain about spending so much money on building an opera when only very few people use it. But, everyone wants an opera in their city, it is a kind of mental landscape of their town. They feel that without it they would not be a complete city. So, it has a function at least at that level. But we tried to introduce the notion of this outdoor space, which could be walked upon, so you can literally walk along the top of the building, look out on the city and enjoy the opera without ever having gone into the building. You might even accidentally decide to see a performance and enjoy what the building offers. In the winter when the Fjord freezes, the ice itself will move up and down this plaza and up this ramp and each winter you will have a kind of ice-sculpture that occurs on the plaza itself. It reintroduces this valley, which was in this place before the buildings were built.

It is under construction now. This is a fairly old picture but it shows you the basic layout of the building and how it sits with the dominant functions on land and the public functions on the sea. It is quite a simple plan in fact. It has this huge workshop area that is connected to a long lobby space, that only the performers use, the stages, the actual theatres themselves, the public areas and the plaza. So in fact it is a very dumb plan. I like to say that this is the dumbest plan we have ever made and that is important when you are making a complex building. Complex buildings require a degree of simplicity, and it takes a lot more work to make a complex building look simple than to make it more complicated. It somehow leaps from the Fjord and sort of cracks into this crevasse where this lobby occurs. The back-of-house functions just push through wherever they need more space. The entrance again is really subdued, it is not really a door, you just sort of enter through this slash in the building. You enter into a lobby that has some very unusual forms that it is difficult to gauge their size and scale. There is nothing in the

lobby to really tell you where you are. There are no lights in the ceiling, there is nothing in the ceiling, even the smoke detectors are on the side, and the sprinklers are pushed from the side so the ceiling will really be a smooth surface like that. These columns that are tilted, you may think that they are tilted because we wanted to have fun but that is not the case, actually the engineer designed them for us. The foundation system needs load points here and the ceiling system needs load points there, so rather than try to merge the two systems together, we simply connected them with a straight line. So each one of these lines is a link from a beam in the ceiling, down to a foundation pile in the floor. The room itself is really a very simple space, it is made of oak, and in this space there is a very primitive use of materials, wherever we use wood, it is only wood, you cannot see any steel, and wherever we use glass it is only glass, and wherever we use stone it is only stone, so everything is very, very primary. The back-of-house areas are made up of balconies for fresh air for the people that work there. It is covered in a kind of dimpled metal material, taken from an Old Norwegian weaving pattern. The dancers have very good lighting conditions, great views, so the people that work there are given a great deal of comfort, and there is very little natural light coming down from above. There is a garden that is made just for the performers, and is not accessed by the public at all, only people who work in the building can use this garden. From the roof there is a tremendous view across the Oslo Fjord, and it is accessible by the general public, who can move up this roof here and have a very romantic place to view the city. Here is the most relatively recent picture I have, there is the drawing and there is the picture. It will be open in 2008; it has taken us again almost eight years to build this building. It is a very large building and a very expensive one.

I will show you very quickly a couple more projects, there is not enough time today to really get into detail. We did a Norwegian Embassy building in Berlin, and probably the most unusual characteristic of this building is one of the facades, which is a stone wall about fifteen metres high and one metre thick and it is made of one piece of stone, it is not cut up into little pieces, it is literally made of one stone. We recommended to the design team that it be one piece of stone and of course everyone absolutely refused and said that we could not make something that big out of one piece of stone and that it would be too expensive anyway. But we looked into it and we found, after talking to the man at the quarry, that actually, using one piece of stone like this, as a façade was not only 30% less waste in stone but also 30% cheaper than a planar glass wall of the same size including transportation, because literally you just cut it out of the ground, stick it on a boat and float it over to Berlin. So it travelled from Norway to Berlin and it weighed 120 tons, and because it was so heavy it did not even need a fixed foundation system. As for the stone itself, essentially we found an area, a quarry, where the glacial ice had carved the granite 20,000 years ago, although the first run through in this area was about 40,000 years ago. We removed the topsoil so that the surface of the stone was literally the surface of the earth. And here you can see the scale of it. It was the largest contemporary stone moving exercise since the time of the ancient Egyptians. These dimples here are actually the scratches made by the ice 20,000 years ago. There was very little cleaning done, then it was hoisted up and then dropped into place, so the actual façade of the building is literally one stone and all it needed for foundation were these two little jacks which we put into these holes to even it out and these two little rods that sat in a kind of slice there to hold it in place. That's it; nothing else holds it up, it holds itself up. And the German authorities were so nervous about this they said they needed some calculations, so we did some calculations and then after that they said, "No, actually, although you made the calculations we do not accept them because stone is a natural material, we can only accept calculations on an unnatural material, because we do

not know whether this will break". The project managers, when we said that we were going to move this to Berlin told us that we could not do it because the stone would probably break on the way. Instead they made these specifications to test the stone to make sure it would not break, but the guy who ran the quarry said that if he were to do all these tests, it would cost him more than if he just gave us a free stone that broke. So he said, "I won't do any tests and if it breaks I will give you one for free". All in all it took four days to make this stone, four days to take it out of the ground and then about two weeks to ship it to Germany, and of course it did not break. And there it is. In a sense we rotated the earth 90° into the sky. The remainder of the building is very domestic you could say. It is ordered, it is well-organized, it manipulates the light in a comfortable way, there is a kind of column that holds up the sunlight outside the ambassador's office, and that is actually a skylight up there.

Then we won another competition, for a museum for J.M.W. Turner, the great British artist, who often lived and painted in Margate, England. This again was a very exciting competition, because once again it was near the water, on this key. And Turner, as you may know, painted these beautiful paintings that he was famous for, but when he died and they opened up his studio, they found all these rather bizarre paintings that he never showed anyone. He led two lives; he led the life that everybody wanted him to live and the life that he wanted to live, and so our building began to represent these two worlds. The building is split into two, with one portion on the quay itself with the gallery set onto the open ocean and the English Channel. Rather than putting it on the safe side of the quay we put it on the side that is exposed to the elements. Turner often painted into the elements themselves. The building is this gigantic breaching form coming out of the ocean. It was to be made in one piece in a shipyard in Ireland and brought over by tugboat to England. It was made like a ship's hull, all welded together, and the bottom of it, the keel, is a water tank, which, when empty allows it to float and when you get it where you want it you fill it with water and it sinks into position. And that water could also be used to cool the building, so we were going to use natural water-cooling through the basement for some of the equipment. We imagined this amazing day when they would bring the Turner Museum into Margate in England, and there you would see it in its context. It has a relationship to the sea in more ways than one, but one that is very important is that every year, at least once a year, they have hurricane force waves – this is our site (picture) – and the wave would actually be the size of the building, so the building would have to withstand a wave the same size as itself. That was a very intriguing problem and in fact we had to create a testing system. We found out that the problem is not the wave knocking the building over, the problem is the wave wanting to suck it out to sea, so we had to anchor it back rather than hold it forward. Here you see the use of light that moulds the corners of the interior galleries so that they seem to disappear like the horizons in Turner's paintings.

We have done a number of small museums. This is a small fishing museum, about 600 square metres on the west coast of Norway. This was a very poor town with little money. They called us up one day and said, "Could you please make a museum for us, but we cannot pay you". And we said we would think about it as it was an area from where my partner is from. We agreed in the end that we would make a few sketches, but they would have to build it themselves. So we drew up the sketches and gave them to them, and they basically called us two years later and said, "Ok, we are finished now". It was amazing, this group of seventy-year-old pensioners who used to fish in the area organized the building with a local builder and they did the entire building without almost no construction documents. When they finished they called us up

and said, "We've finished and it is interesting, but it is uglier than we thought it would be". So we went out for a visit and we stood right about in this location, it is just exposed concrete, and we just scratched our heads, and said "Yeah, it is a little uglier than we thought it would be too". They wondered if they could just cover it in brick or just add some wood to it, because it would make it a lot prettier, but we said no, it is supposed to be concrete. The idea was, because it is a very wet climate that this lichen, which you can see here, would grow on the building, but the problem was that this lichen takes about 40 years or more to grow to cover the area we needed and these guys were all seventy years old and would not live long enough to see the building reaching maturity. So we looked into ways to get this lichen to grow faster on the building and we tried fertiliser, but fertiliser did not work, because the acidity of the fertiliser ate into the concrete, and then we heard from someone in the area that if you use sour milk, like yoghurt, on a stone it will get the lichen to grow really fast. So we tried it out and it worked, We instructed them to go and buy 500 litres of yoghurt and they painted the building in it, and it was there for about a month and of course it stank and there were flies flying around, but when it came down the lichen was growing on it and it really looked great. And I am not going to show you that picture, I am going to make you go there to see for yourselves. The building now starts to look like something like this, it is all modelled and kind of intriguing and it is lifted slightly off the ground so that it aligns with the landscape in the distance. And when it rains it turns black, jet black, and in the summer when it is dry there is a really bright white colour to it, so it is always changing. It is very simply placed in the landscape, almost like a fisherman who says, "Ok, I will be here".

And this is one of the last projects I will show you: it is a museum on the west coast of Norway in a place called Tafjord. It is a fantastically beautiful setting, a beautiful place, but it is also very, very dangerous. There are an enormous amount of avalanches there, every day there is a rock falling off a mountain somewhere and the people just live with it. They have gotten used to it and they know where to build and where not to build so that there is this ever-changing landscape. The avalanches are enormous, some of them are so big in fact that they fall into the lake nearby and create and tsunami, and the tsunami wipes out the villages in the areas below, so several hundred people have lost their lives to the tsunamis created by these avalanches, which are just enormously powerful and disastrous and there are terrible stories about these tragedies in Norway's history in this region. There is a woman who grew up there and she began to make videos about the moving landscape, the living landscape, and they decided to make a museum for her. The government also decided to build a dam to protect the people in the valley below, so the dam holds the tsunamis back and it creates electricity. And they gave us a site but looking at the place we decided that the site should really be in the gap between the two gorge faces, the faces of the valley. So you enter into the space and you move across this bridge into a cavern where the films are shown. There is a kind of fantastic glass bridge you use to cross this deep, deep valley – it is Europe's second tallest dam and is 93 metres high. The client was so excited, he thought that it would attract a lot of tourists and that they would need a hotel, and he asked us to put a hotel where they initially wanted us to put the museum. We thought that it would not be a good place for it and we proposed to put the hotel on top of the dam, so that if you are ever staying in this hotel and there is a tsunami you can actually watch this wave come towards you while there are film projections placed onto the wall, because we proposed to use the dam base as a huge video screen so that you can view these kind of artists' works in different contexts, and there it is in its place (picture).

The project in New York is located at the World Trade Centre site, which was of course damaged during the attacks in September 2001. It is also a place with a lot of links to the rest of New York City; it is a very important location in Manhattan, a historical location. Working on this project is intense. These are some of the artefacts they managed to collect after the buildings fell and some of them are very moving. These are bicycles that were never claimed after the buildings fell, pieces of warped steel. Everyday we meet people who lost someone in the building. Everyone that we work with is in some way connected to the collapse of those buildings; thousands and thousands of people were affected by it. And when you meet someone who lost someone there, it is still so recent, they always introduce themselves to you in the same way: "Hello I am John Smith, I lost my brother on the 86th floor of the North Tower". You could meet that person fifteen times and they will still tell you the exact same thing. It is like a ritual. So you are in this kind of world of tragedy and death, but at the same time you are trying to build something apart from that, something that transcends it. The memorial itself was designed by another architect and it is these two footprints, where the buildings used to be, filled with pools, and our project is to build a cultural building in the northeast corner. It is to be the only building on the memorial site. And here you can see Daniel Libeskind's master plan, with the memorial, this large tower, other commercial towers by famous architects, and our project in the middle. It is a really scary place to be. This is a sketch someone in our office made and it shows everybody staring at us: Frank Gehry, Fumihiko Maki, Santiago Calatrava, Norman Foster, Richard Rogers. They are all staring at us, and our building is the smallest building there, and we are happy with that. In fact we are always trying to make it smaller. We want it to be a real tiny building, not big at all.

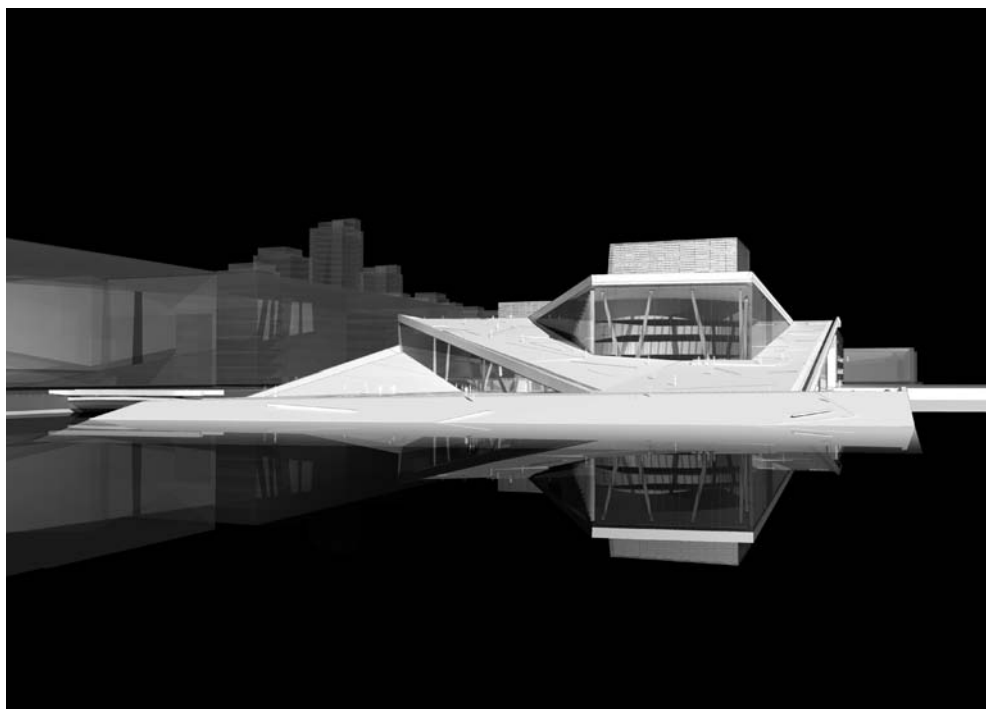
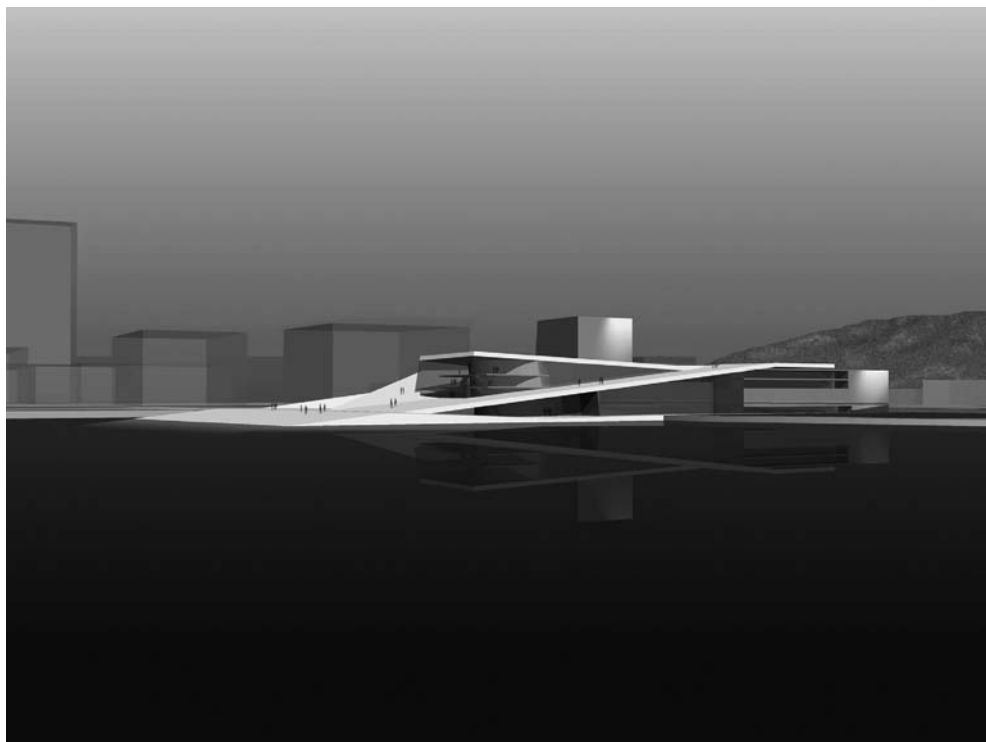
The first designs we made were made with a Drawing Centre, an institution in New York, and an International Freedom Centre, two cultural centres that were part of New York, and that project was meant to look at the master section of the site. A lot of people talk about a "master plan". I do not think that a master plan has as much validity as the section which shows the memorial cut into the ground, the skyscrapers that cut into the sky and our building, this cultural building which is in a way part of the ground, and part of the earth and the sky. We are trying to bind these two worlds together, as a world that goes into the earth, into the past, into the sky, to the future, with a kind of link, a mental link, between three different ways of understanding this site. So we began by lifting the building off the ground and designing the empty space below it, which was a very important thing to do. Instead of designing the building we were designing the air around the building, and it became a kind of horizontal window into the memorial, and that window was not 1:1, the raised building was slightly tilted so there was a difference between what was dominant and what was less dominant. We created a light-cord that went down through the building to provide light to the space below it, as you raise the building. The light-cord had one function only, to bring the light down. It did not bring light into the building, which made it a more powerful device, as it became a vertical space within a horizontal space, as you move through this transition, between the memorial and the city. And that was actually made to be really small, really tight and highly reflective. And these little strings that you see here, those are really very unusual and came from a conversation with a friend. They are fibre-optic cables that are connected to tiny little mirrors on top of the building, each has a solar collector on it which collects enough energy to allow the mirror to rotate slightly according to where the sun is. So the little mirror, which is no bigger than an orange, follows the sun, and as it follows the sun the fibre-optic cable is plugged into the mirror, so

the sunlight is funnelled down these fibre-optic cables and released at the bottom. So it is like taking the light and letting it pour out into a space that is quite deep down in the building.

The building that was proposed was a very horizontal building and very monumental in some ways, but also very simple and primitive in others. For the façades of the building we worked with the idea that building would actually make light, rather than reflect it, and the only way we could do that was by using these prisms. So all these pictures that you are seeing are made only with natural light, there is no artificial light here at all, but the prisms, because of the way they are turned, capture different parts of light and allow it to come forward in a different way, and that light would be cast down onto the ground. And what is really amazing is, because each of these prisms is pointed in a different direction, as the sun moves across them the pieces of light that penetrate through the façade will move in different directions. So this one might move that way and this one might move that way, because of the angle and orientation of the optical prism outside. And so it would change during the seasons. That sort of scenario lasted for about a year and then they decided that they would change the programme and they would not allow the Drawing Centre or the International Freedom Centre to be connected to the building anymore, so we actually had to redesign the building, which is where we are now. We are working with this smaller footprint, which you can see here, and a much smaller building that is situated as a link to the below-ground museum, which will house some of the artefacts. And the new design is meant to be a much more transient kind of feature in the landscape. And these are some of the first sketches that we have, and they have not been released to the public yet so you are actually the first people to have seen them. We have not given them to the media yet. We are working with the façade, with trying a different understating of light, and here you see how the light works with the shadows.

Those are some of the big projects we have done. This is the smallest project that we have ever done. We do a lot of small projects; most people do not even know it. This one is really small. When we were doing the Alexandria Library, we were sitting there sweating over 60,000 drawings. There were 60,000 architectural drawings for that project. And this woman called us up one day and she said, "I know you are very busy but I have this cat and I really like it, could you do a fountain for me and my cat?". She was an elderly woman of about 75, and we thought if she's got the nerve to call us up in the middle of this Alexandria Library thing she's got to get the job. So we went out there and met her cat and we looked at the site where she wanted to put this fountain, and when we were kicking out the earth around the area we found that actually this old building had so much trash buried underground, from 100 years of people living there, that there was enough trash that you could actually make a whole project using nothing else. So we told her we would redesign her garden for her too and that she would not have to buy anything because it was all there. We found an old building that had collapsed, and the bricks that were salvageable, we made into new retaining walls, and these retaining walls were just held up by chicken wire, and that was the only thing that we actually bought. And we found a staircase, a whole staircase, which we just put up above ground. We found an entire 1957 Chevrolet buried in the ground, it was astonishing. And we put pieces of the hubcaps into the wall, and some of the bricks we made into pavers, some we crushed and made these beautiful gravel standing areas. And then the stone that the fountain was made of, was from a piece of stone that we found there and we reconstituted into the little fountain for the cat and we covered it with these very beautiful vines that grow very quickly in Norway.







Nuno Portas

Professor, Porto School of Architecture, Portugal

Presentation of the Honorary Guest by Constantin Spiridonidis

I would like to introduce our third keynote speaker, Nuno Portas – a person, who in the consciousness of the Portuguese people, is strongly related to the education of architects. His work and his ideas inspired many architects during the 70's, 80's and 90's, and there are many architects who cite his name with great admiration and a very profound sense of respect. He is primarily a researcher, who after a long a career in research passed into the field of education, becoming a full professor at the Lisbon School of Architecture, then at the Porto School of Architecture, and finally being awarded an honorary doctorate by the University of Aveiro. One of his central scientific and academic preoccupations is the space of the city, its social, cultural and formal aspects; and with his research and projects he has made a serious contribution to this domain. He has elaborated and participated in the master plans of many significant projects in his country, and he has contributed in many fora related to urban space, architecture and the built environment. It is a big honour to have Nuno Portas here with us, and I would like to thank him very much for accepting our invitation.

La Formation de l'Architecte Devant le Defi de la Diversification

L'Europe moderne, après le dualisme des Académies de Beaux Arts et des Ecoles polytechniques Humbolteénes, tard le XIX, n'a jamais réussi a stabiliser un modèle consensuel de formation des architectes. Un pas important dans le sens de l'homogénéisation a été, dès la 2nd moitié du siècle dernier, celui de l'intégration des académies dans les Universités d'Etat. Côtéant des frères avant séparés – ingénieurs du génie, agronomes paysagistes, sciences humaines, historienurs, – au prix de laisser de côté d'autres formations artistiques.

Maintenant un autre défi arrive – celui de l'accord sur la politique de l'enseignement supérieur européen dit de Bologne, vison son adaptation aux demandes de mobilité du capital humain notamment au niveau des degrés post-diplôme.

En dépit des apparences et des directives on pourrait dire que pour le moment la pluralité des modèles de formation des architectes subsiste; donc, que la discussion sur les enjeux disciplinaires et sur les méthodes pédagogiques se maintient dans notre agenda.

Et pourtant les conditions sociétales de l'exercice des métiers – Architecture au pluriel – changent en toute évidence de paradigme: les mobilités des personnes et de l'information; les menaces a la durabilité de l'environnement et la fragilité des Etats dans ses rôles de régulation; l'émergence de politiques locales de cohésion, régénération et compétitivité des villes/territoires; pour ne citer que quelques traits plus significatifs.

De nôtre coté, le nombre d'architectes et des étudiants d'Archi s'est accrue énormément (au moins dans les pays du Sud) formés en générale selon le modèle traditionnel de l'architecte-patron, artiste et généraliste – ce qui a conduit a des cours de longue durée axées dans la pratique «répétitive» ou «imitative» visant un seul profil professionnel et libéral, omni-compétant et primant les meilleurs 'espoirs' au dépens de la majoration des competences moyennes, exaltant l'imagination et l'originalité au dépens de la réflexivité.

En conséquence la proportion entre les minorités des plus'données' – futures architectes renommés – et la majorité de ceux qui restent et resteront anonymes n'a pas connue, apparemment, de variation sensible. Ce que confirme que la fonction sociale des écoles professionnelles est encore loin de l'objectif d'ouvrir et d'élargir l'éventail des compétences de nos élèves dans le sens de la diversité des choix de rôles futurs dépassant le modèle unique du concepteur a compétence universel; objectif qui en plus, ne pourrat pas être garanti dès le départ d'une carrière académique.

En fait, la base de l'entraînement encore pratiqué en nombreuses écoles se borne au travail académique basé sur l'imitation individualisé, sans espace pour la recherche de solutions en groupe. Et moins encore interdisciplinaire, qu'on pourrait accepter pendant laphase d'initiation mais pas dans la simulation plus avancée de problèmes plus complexes ou plus spécialisés, soient urbanistiques soient technologiques.

Ainsi, la pédagogie traditionnelle, encore sous-jacente a la Directive (sans oublier le rôle des organisations professionnelles) rejette toute idée de progression et diversité des profils par le biais de choix successifs au long du processus de formation. Jje parle surtout des pays latins et de ces zones d'influence.

C qui n'empêche qu'une bonne partie de nos élèves soit obligée ou choisira du travail dans des établissements publics (programmation, suivi, régulation, recherche, aménagement, ...) ou bien dans le secteur privé (studio, bureau d'études, chantiers, où la division du travail devient plus segmentée et spécialisée). Bref, des tâches pré/pendant/post conception du projet conventionnel.

Cette diversification des rôles traverse les domaines classiques de l'éducation de l'architecte issue de la rupture Bauhausienne: le territoire, l'édification, le design des éléments constructives. A croiser avec des types d'activités dominantes comme

- la programmation, en tant que définition des besoins et des ressources;
- le projet, en tant que formalisation de l'objet;
- la construction, en tant que processus de réalisation et contrôle des moyens et de la qualité;
- la recherche, en tant qu'évaluation critique, normative, économique.

On pourrait penser qu'une bonne partie de ces activités impliquent des compétences d'autres formations voisines – ce qui est partiellement vrai: l'évolution de l'état des savoirs nous montre, d'un côté, qu'on est devant des problèmes en fait transdisciplinaires ou la participation de l'architecte, de sa 'culture de projet' peut-être décisive pour arriver à des hypothèses et des résultats opératifs en temps utile et, d'autre côté, qu'on est devant des problèmes dits mal-définis où l'interaction de la recherche avec les réalisations concrètes (laboratoire en temps réel) est devenue une condition de progrès. Une démarche de l'innovation a la réflexivité et vice-versa, qui devrait constituer l'axe de la formation actuelle.

Alors, comment préparer les jeunes générations – y incluant les jeunes enseignants dans sa carrière scientifique – pour la pluralité des choix au sein d'un métier qui est devenu trop complexe pour pouvoir se réduire à un seul profil pour toute la vie, visant un seul type de produit, une seule dimension de notre responsabilité sociale? La réponse à ce problème de complexité pédagogique nous oblige à jouer avec le 'facteur temps' – le temps des choix ou le choix des temps.

Ça veut dire, la capacité de l'étudiant de prendre des options sélectionnées par l'école en parallèle ou séquentielles; offertes dans la même ou par d'autres écoles dans une perspective de formation continue. L'accord de Bologne, dans ces principes, joue sur deux possibilités – en favorisant plus d'options disciplinaires (et de temps libre personnel) et plus de mobilité, avec des cycles pédagogiques plus courts, permettant des options parmi les écoles (et pays)

Sans discuter dans le détail les réglementations des différents pays, je propose quelques réflexions qui se posent le proche futur à nos institutions.

La fracture des cours de long duré en deux cycles correspondant à deux certifications autonomes (3+2, 4+1 ... 4+2?) a été l'argument principal de l'opposition des écoles d'Architecture (d'Europe du Sud) à l'acceptation du modèle bolognais. Dans le cas portugais cette réaction a abouti à un compromis – une «exception architecture» (à côté de celle de la médecine) qui consiste à intégrer le 1^{er} et le 2nd cycles (5 ans) équivalant au niveau master, à condition de octroyer un diplôme de 1^{er} cycle.

A mon avis, ce défi de Bologne pose sans doute des problèmes sérieux surtout de la spécificité pédagogique de l'architecture mais représente aussi une opportunité non moins sérieuse pour repenser la diversification des profils de la formation des jeunes architectes. Et notamment celle de ceux qui s'orientent, parmi d'autres formations, à l'urbanisme et l'aménagement du territoire.

1. Comme principe général, le 1^{er} cycle devrait être dédié aux connaissances fondamentales, donc la base théorique suffisamment approfondie et généraliste pour permettre les choix à offrir dans les cycles successifs. Mais il me semble qu'on a voulu, du même coup, faciliter l'entrée directe d'architectes « juniors » dans le marché du travail, ce qui exigerait, dans notre cas, l'offre dans ce court cycle de compétences d'expression visuelle orientées à résoudre des problèmes d'organisation des espaces – qui occupe nécessairement un temps plus genereux de pratique assistée, dit d'atelier, relativement importante. Comment donc concilier ces deux types de desseins relativement contradictoire en trois ans de scolarité? Faut-il prôner les quatre années en tant qu'« exception archi »?
2. Le 2nd cycle devrait, par contre, assurer soit une formation generaliste initié pendant le 1^{er}, soit une première grande option, plus spécialisée; comme, par exemple, celui de l'aménagement du territoire et l'urbanisme – au delà des projets d'ensembles bâtis ou des espaces publics qui sont déjà des acquis dans la majorité des écoles. Pensant toujours aux domaines urbanistiques, la demande de connaissances disciplinaires à renforcer doit être confrontée avec une pratique de plan et projet urbain centrale et intensive, mobilisatrice du travail en groupe, soit d'étudiants-archi, soit d'autres origines proches (génie, paysagisme, géographie, ...) ou le laboratoire-enseignement-recherche): toujours l'atelier d'au moins deux semestres comme conçu espace focal.

Regardons de plus près la question de l'urbanisme. D'abord une constatation: les dimensions de l'urbanisme et de l'aménagement (le premier plus proche de la discipline architectural) posent des problèmes conceptuelles et pratiques difficiles de concilier avec les curricula continus des cours standard d'Architecture.

En fait et en dépit des apparences, architecture et aménagement du territoire ne se différencie que par l'échelle. La différence la plus significative pour la formation réside dans la nature des objectifs et moyens d'intervention: la première s'oriente directement à la formalisation des espaces bâtis (ce qui suppose un degré très élevé de certitude), le second est obligé à travailler avec l'incertitude, le facteur 'temps', des acteurs et l'indetermination des moyens. Des processus de décision physiques et non-physiques dont le concepteur-aménageur (architecte, paysagiste, ingénieur d'infrastructures, etc.) ne peut pas définir, a priori, toutes formes finales. Ce qui, dans le domaine du bâtiment, ne peut être qu'exception, dans l'activité urbanistique et territorial devient plutôt la règle: on y est obligé à chercher successivement la réduction de l'incertitude, dès la stratégie et le programme au plan et à la gestion proactive et continue. Et pourtant, dans ce processus, le rôle de l'architecte n'est pas négligeable: même quand il n'est pas le compositeur ni le chef de l'orchestra – aménageur ou plann – il sera, entre autres, un des soliste, toujours que la partition lui donne l'entrée! Et je pense plutôt au "jazz" (improvisation) et moins à la tradition classique...

Alors, comment former l'architecte standard pour comprendre ces problèmes (même s'il n'envisage de faire l'urbaniste) surtout si, au contraire, il prétend se préparer pour des tâches si différentes, manipulant une boîte d'instruments (même pour 'dessiner') tout à fait distinctes?

Dans la première hypothèse (celle de l'architecte standard), le problème pourrait se résoudre au niveau de la programmation des deux cycles de façon à y introduire les connaissances nécessaires et suffisantes à la compréhension des questions urbaines contemporaines, sans oublier une pratique d'atelier spécifiquement centrée sur les nouveaux processus et formes d'intervention urbanistique (tracés, projet urbain, régulation...). Dans le second cas, on est devant une orientation optionnelle typique d'un 2nd cycle de post graduation (selon Bologne) dans la même ou dans une autre école ou département, éventuellement avec des étudiants d'autres disciplines. Une troisième hypothèse sera celle de l'offre dans une École d'Archi, d'un cours autonome complet, avec les deux cycles en continuité, arrivant à un diplôme d'architecte-planer ou d'urbaniste. Dans ce cas – avec des exemples au Polytechnique de Milano ou à l'École d'Archi de Lisbonne – il faut tenir compte que les candidats sont obligés de choisir une option professionnelle dès le début du 1^{er} cycle et, le cas échéant du choix fait, pouvoir reprendre le 2nd cycle du cours standard d'architecture (et vice-versa?). La variation parmi les trois systèmes concerne surtout les moments des choix et la compatibilisation des curricula académiques qui dépendra aussi des moyens des institutions – problèmes que l'expérience acquise avec l'Erasmus pourra aider à résoudre.

Il y a, dans la généralité des écoles, il me semble, des déficits qu'il nous faut compenser en profitant de cette opportunité de réforme qui traverse l'éducation architectural en Europe.

Trois exemples, d'après mon point de vue sur les priorités:

- Déficit de la *compréhension critique des contextes* changeants locaux: de l'environnement, des mobilités, des tendances des marchés, des institutions et des demandes individuelles – matières qu'impliquent d'autres disciplines que la nôtre;
- Déficit de la *compréhension rétroactive des rapports entre les solutions physiques projetées et les comportements*, multiples voire contradictoires, des «acteurs» de la scène urbaine: réponse aux modes de vie, à la cohésion sociale, au développement économique et technologique – mais aussi des effets catalytiques des interventions, donc de l'usage et du temps;
- Déficit de *compétence réflexive sur les stratégies* utilisées pour réguler et dessiner les développements des territoires: visions, programmes, plans, projets, gestion locale, en différentes échelles et morphologies ou plutôt "layers" d'un hypertexte.

Mon expérience de coordination, les derniers dix ans, d'un master d'aménagement du territoire inter-écoles de l'Université de Porto (architecture, génie, géographie, paysage) a été considérée positive du point de vue des apports à la recherche appliquée et aussi de la qualification de l'emploi des étudiants. Une des clés du «succès» étant celle de recréation de la formule atelier / labo (deux semestres en parallèle avec des disciplines théoriques) - un espace de résolution de problèmes réelles, du dessin jusqu'au dessin urbains, avec la coopération dans ce cas des étudiants déjà diplômés par différentes écoles.

Un modèle pour un 2nd cycle Bologne

Je suis conscient de ne pas avoir apporté des solutions universelles pour ces questions qui se posent probablement aussi dans vos écoles. Et, en plus, parce que ces solutions ne peuvent

pas non plus arriver au consensus nécessaire sans l'apport convergeant des associations professionnelles accréditées qui, en general, résistent à toute différenciation des degrés d'accès à un monde du travail.

Ce qui me semble important, pour conclure, c'est l'attention, au delà des méthodes et des formes de la pédagogie, aux objectifs critiques de toute formation devant les problèmes socio-culturels que soulèvent les territoires de notre contemporanéité.

Sans exclure l'apport de la formation aux secteurs privés, je pense surtout à la formation des agents du service public. La planification et la régulation est devenue de plus en plus un processus proactif: la qualification et la responsabilité des agents qui interprètent les pouvoirs démocratiques aura un rôle cruciale – ce qui exige compétence disciplinaire, coopération interdisciplinaire et transparence éthique.

Est-ce qu'on conduit nos écoles vers le renforcement de ces valeurs?

Discussion on
Nuno Portas's Keynote speech

Constantin Spiridonidis, Thessaloniki, GREECE

Merci beaucoup pour cette présentation. C'est dommage qu'il n'y a pas beaucoup de temps pour des questions, mais je crois qu'on pourrait quand même avoir quelques réflexions immédiates et puis après, si vous voulez, on pourrait continuer la discussion pendant le dîner. Alors, nous avons deux questions.

Nikos Rodolakis, Thessaloniki, GREECE

La domination anglo-saxonne que vous avez citée, ça ne donne plus que cinq minutes pour faire une discussion en français. Même, vous avez vu le résultat: les collègues sont parties parce qu'ils ne comprennent pas le français. Mais vous, vous êtes d'une génération d'avant, comme moi, comme d'autres collègues qui, sans être des francophones bien sur, utilisent quand même le français. Car le français, ce n'est pas une langue, c'est une culture.

En general je suis d'accord avec votre point de vue. Grosso modo...

Nuno Portas, Porto, PORTUGAL

Est-ce que vous êtes de l'Amérique Latine?

Nikos Rodolakis, Thessaloniki, GREECE

Non, je suis grec, mais j'ai étudié architecture et urbanisme à l'étranger. J'ai aussi travaillé, au début de ma carrière, à l'Institut d'Urbanisme de Paris, et maintenant ça fait trente ans que j'enseigne l'urbanisme à l'université Aristote de Thessalonique, dont 15 ans à l'Ecole d'Architecture et 15 ans chez les ingénieurs civils. En plus, on a créé il y a deux ans, sur mon initiative, une école d'urbanisme et d'aménagement et développement dans la région de Thessalonique, dont je suis le Président- Directeur. Voilà, donc, pour ce qui est de mon curriculum vitae, mais joue un rôle, quand même, pour les points de vue. Je suis, donc, d'accord avec la façon dont vous avez décrit les cycles. Le premier cycle, par exemple, est de trois années: trois semestres de connaissances de base et trois semestres de connaissances générales, ça fait les trois ans. Et après il y a l'approfondissement, la spécialisation, et la recherche à la fin. Ça, c'est le cycle. Mais le rapport entre l'architecture et de l'urbanisme, c'est une très grande question. Enorme. Vous avez cité Le Corbusier. Le Corbusier, il était surtout architecte, mais il parlait de tout. Il a fait le texte simpliste de la Charte d'Athènes, qui était surtout de l'urbanisme. Le résultat de l'application de ce texte simpliste – on l'a vu partout en Europe, et surtout en France, les grands ensembles – c'est du gigantisme. Ce n'est pas lui qui est coupable de cela, ce sont les autres qui ont cru à son enseignement qui sont coupables; mais la différence entre l'architecture et l'urbanisme, c'est un tout autre point de vue. On ne peut pas dessiner des chaises et des tables et en même temps faire de l'aménagement et du développement. Ce n'est tout simplement pas possible. Avec l'architecture, on aboutit à une forme, une forme concrète, et au bout d'un an on le voit. L'urbanisme, l'aménagement, c'est surtout l'utilisation du sol. C'est du planification. Elle n'a pas de formes. La forme sera donnée par la suite par les architectes, qui vont suivre les règles de l'urbanisme pour réaliser les espaces que l'urbaniste a planifiés. C'est ça la grosse différence. A l'Institut d'Urbanisme de Paris, par exemple, on n'était que 2 ou 3 architectes; les autres c'étaient des économologistes, des sociologues, etc.

L'autre chose que je voulais dire, c'était que votre point de vue était très concret, et c'était évident que vous avez vécu ce que vous avez dit : c'est votre expérience profonde qui a été entendue autour de cette table. Merci.

Constantin Spiridonidis, Thessaloniki, GREECE

Je demande pardon à Francis Nordermann que nous n'avons plus le temps pour d'autres questions. Peut-être ce soir, autour de la table... Ah, oui, bien sûr, si c'est pour dire quelque chose de bien.

Francis Nordermann, Paris, FRANCE

Je veux certainement continuer la discussion plus tard, mais je veux juste dire une petite chose en public. L'intervention de Monsieur Portes était absolument à l'échelle et parfaitement précise au moment de la mise en place de l'LMD, et c'est formidable de l'avoir invité.

Constantin Spiridonidis, Thessaloniki, GREECE

Thank you very much. We have arranged for the text of the lecture to be translated into English for publication in the proceedings.

Session 2

Mapping

Contributions:

Constantin Spiridonidis, ENHSA Coordinator Thessaloniki, Greece

Constantin Spiridonidis, Thessaloniki, GREECE

I would like to begin by speaking a little about the concept of this event. As some of you may remember, in the closing session of the previous meeting some participants commented on the need for more information. Every year we repeat that the aim of this meeting is to understand and to gather information; these are not decision-making conferences, they are just meetings where we try to better understand each other. To this end, every year we try to find different ways by which to achieve a better quality of information. This year we have tried to develop, as much as possible, new information about where we are, who we are and what we are doing when we educate architects in our schools. In accordance to this view, we centered our preoccupation on the new framework created, after the voting in the European Parliament on the new Directive for the profession of the architect, which defines some new conditions regarding the role and functioning of the Advisory Committee. We consider this new situation to be very significant and we think that it is very important for the Heads of Schools of Architecture to know as much about it as possible. From our thinking on ways of providing information in order to better understand the new conditions and dynamics we are faced with, emerged the theme and title of this meeting: “New Directives, New Directions”.

This year we have invited three keynote speakers. The first, Alexander Tombazis, we heard yesterday. Later today, we will hear the keynote speech by Craig Dykers, whom I'm sure you all know. He is one of the lead architects of SNØHETTA ARCHITECTS, and his team is the one that designed and built the Alexandria Library, as well as more recently winning the competition for the site of Ground Zero in Manhattan, New York. I am sure you will agree that it would be very interesting to see these projects presented by their lead architect. The other keynote speaker is Professor Nuno Portas, from Porto School of Architecture, in Portugal, and he will deliver his lecture on Monday afternoon.

Let us now begin the first session, entitled “The Mapping of the State of the Art in Architectural Education”. As I already mentioned, there was a demand from participants in previous meetings for the gathering of information to show where we are and what is happening in different European countries, and we considered that it is very significant to collect this information and to present it in a way that could highlight the different aspects of architectural education as they are developed in Europe. In order to do this, in mid-June, we organised a meeting in Brussels, where we invited people from various European countries to investigate the type of questions and the kind of information that it would be useful to incorporate in this collection process. After this meeting, a first aspect of a questionnaire was produced and circulated, and then the final version was produced and distributed in July, so that finally, we now have almost every country in Europe represented in this very short enquiry; only four countries were not included as we did not receive their answers in time.

Before we begin I would just like to say that we completed our enquiry and processed and analysed the data in a very short time, so that it would be ready to present to you today. I would like to publicly thank our colleague and friend, Manos Zaroukas, who helped us enormously in this very difficult task of collecting, organizing and analysing the information we received and I will now invite him to present it to you because I feel that he is the most appropriate person to do so.

Towards a Competences Based Architectural Education in Europe*

As. Prof. **Constantin Spiridonidis**,

School of Architecture, Aristotle University of Thessaloniki, Greece

1. Tuning Educational Structures in Europe

The text of the session 1 is written by the Tuning Management Committee

Tuning Educational Structures in Europe is a university driven project, which aims to offer a universal approach to implement the Bologna Process at the level of higher education institutions and subject areas. The Tuning approach consists of a methodology to (re-) design, develop, implement and evaluate study programmes for each of the Bologna cycles.

Furthermore, Tuning serves as a platform for developing reference points at subject area level. These are relevant for making programmes of studies comparable, compatible and transparent. Reference points are expressed in terms of learning outcomes and competences. Learning outcomes are statements of what a learner is expected to know, understand and be able to demonstrate after completion of a learning experience. According to Tuning, learning outcomes are expressed in terms of the level of competence to be obtained by the learner. Competences represent a dynamic combination of cognitive and meta-cognitive skills, knowledge and understanding, interpersonal, intellectual and practical skills, and ethical values. Fostering these competences is the object of all educational programmes. Competences are developed in all course units and assessed at different stages of a programme. Some competences are subject-area related (specific to a field of study), others are generic (common to any degree course). It is normally the case that competence development proceeds in an integrated and cyclical manner throughout a programme. To make levels of learning comparable the subject area groups/Thematic Networks have developed cycle (level) descriptors which are also expressed in terms of competences.

According to Tuning, the introduction of a three cycle system implies a change from a staff centred approach to a student oriented approach. It is the student that has to be prepared as well as feasible for his or her future role in society. Therefore, Tuning has organized a Europe-wide consultation process including employers, graduates and academic staff / faculty to identify the most important competences that should be formed or developed in a degree programme. The outcome of this consultation process is reflected in the set of reference points – generic and subject specific competences – identified by each subject area.

Besides addressing the implementation of a three cycle system, Tuning has given attention to the Europe-wide use of the student workload based European Credit Transfer and Accumulation System (ECTS). According to Tuning ECTS is not only a system for facilitating the mobility of students across Europe through credit accumulation and transfer; ECTS can also facilitate programme design and development, particularly with respect to coordinating and rationalising the demands made on students by concurrent course units. In other words, ECTS permits us to plan how best to use students' time to achieve the aims of the educational

* The present inquiry was presented in the form of tables by Constantin Spiridonidis and Emmanouil Zaroukas at the 9th Meeting of Heads. Emmanouil Zaroukas, architect, PhD student processed the data of the tables for the inquiry.

process, rather than considering teachers' time as a constraint and students' time as basically limitless. According to the Tuning approach credits can only be awarded when the learning outcomes have been met.

The use of the learning outcomes and competences approach might also imply changes regarding the teaching, learning and assessment methods which are used in a programme. Tuning has identified approaches and best practices to form specific generic and subject specific competences.

Finally, Tuning has drawn attention to the role of quality in the process of (re-)designing, developing and implementing study programmes. It has developed an approach for quality enhancement which involves all elements of the learning chain. It has also developed a number of tools and has identified examples of good practice which can help institutions to boost the quality of their study programmes.

Launched in 2000 and strongly supported, financially and morally, by the European Commission, the Tuning Project now includes the vast majority of the Bologna signatory countries.

The work of Tuning is fully recognized by all the countries and major players involved in the Bologna Process. At the Berlin Bologna follow-up conference which took place in September 2003, degree programmes were identified as having a central role in the process. The conceptual framework on which the Berlin Communiqué is based is completely coherent with the Tuning approach. This is made evident by the language used, where the Ministers indicate that degrees should be described in terms of workload, level, learning outcomes, competences and profile.

As a sequel to the Berlin conference, the Bologna follow-up group has taken the initiative of developing an overarching Framework for Qualifications of the European Higher Education Area (EQF for HE) which, in concept and language, is in full agreement with the Tuning approach. This framework has been adopted at the Bergen Bologna follow-up conference of May 2005. The EQF for Higher Education has made use of the outcomes both of the Joint Quality Initiative (JQI) and of Tuning. The JQI, an informal group of higher education experts, produced a set of criteria to distinguish between the different cycles in a broad and general manner. These criteria are commonly known as the "Dublin descriptors". From the beginning, the JQI and the Tuning Project have been considered complementary. The JQI focuses on the comparability of cycles in general terms, whereas Tuning seeks to describe cycle degree programmes at the level of subject areas. An important aim of all three initiatives (EQF, JQI and Tuning) is to make European higher education more transparent. In this respect, the EQF is a major step forward because it gives guidance for the construction of national qualification frameworks based on learning outcomes and competences as well as on credits. We may also observe that there is a parallel between the EQF and Tuning with regard to the importance of initiating and maintaining a dialogue between higher education and society and the value of consultation – in the case of the EQF with respect to higher education in general; in that of Tuning with respect to degree profiles.

In the summer of 2006 the European Commission launched a European Qualification Framework for Life Long Learning. Its objective is to encompass all types of learning in one overall framework. Although the concepts on which the EQF for Higher Education and the EQF for LLL are based differ, both are fully coherent with the Tuning approach. Like the other two, the LLL variant is based on the development of level of competences. From the Tuning perspec-

tive both initiatives have their value and their roles to play in the further development of a consistent European Education Area.

This brochure reflects the outcomes of the work done by the Thematic Network on Architecture named "European Network of Heads of Schools of Architecture (ENHSA)" so far. The outcomes are presented in a template that was developed to facilitate readability and rapid comparison across the subject areas. The summary aims to provide, in a very succinct manner, the basic elements for a quick introduction into the subject area. It shows in synthesis the consensus reached by a subject area group after intense and lively discussions between the partners of the network. The more ample documents on which the template is based are also included in the brochure. They give a more detailed overview of the elaborations of the Thematic Network.

2. The State of the Art in Architectural Education in Europe

Architecture as manifestation of our culture in space emerges through a creative synergy of artistic expertise, technical intelligence and scientific knowledge guiding the act of designing buildings and structures. In a wider definition architecture includes the design of the total built environment: from the big scale of town planning, urban design and landscape design to the small scale of the construction details and the objects design. The process of design through which architectural forms are produced is primarily driven by values, principles, ethics and objectives directing the creative manipulation of mass, space, volumes, materials, textures, light and pragmatic elements such as cost, construction techniques and technology, in order to achieve an aesthetic, functional and meaningful end.

An architect is a person who is involved in the creation of the build environment by translating into built forms and spatial organisations the socially and culturally defined demands of persons, groups or bodies. In the broadest sense an architect is a person who transforms through the architectural design practice the citizens' needs into designed proposals of physical space to be constructed. They should be able to operate within a variety of client, architect, management and builder relationships in an effective and professional way, within the constraints imposed by the building and construction industry, the project budget and the brief. This is why architects must possess a systematic and broad body of knowledge, skills, and theory developed through education, graduate and post-graduate training, and experience. The process of architectural education is structured to assure the public that when an architect is engaged to perform professional services, that architect has met acceptable standards enabling proper performance of those services. The different national and international professional societies of architects are charged to maintain and advance architects' knowledge of the art and science of architecture, to respect the body of architectural accomplishment, and to contribute to its growth.

There are about 310 Schools of Architectures in Europe recognized by the State. They belong either to Universities or Technological Institutions or to Art Academies or constitute autonomous higher education institutions. Architecture as subject is of a inter/multi disciplinary nature, many different profiles of Schools of Architecture can be recognized. Those profiles can be structured according to the gravity different domains of architectural knowledge have in the school curricula, and/or according to three main polarities dominating today the debate on architectural education and affecting directly the priorities of the schools curricula: The artistic versus scientific, the vocational versus academic and the specialization versus general education. The different combination of these poles together with the different degree of their

gravity give a broad spectrum of different curricula identities reflecting the specific character of each school. In the contemporary international competition of the higher education institutions, the redefinition of a recognisable identity of a school of architecture constitutes one of the main lines of the mission statements of European Schools of Architecture.

According to an inquiry that ENHSA Thematic network run in 2006¹, the total number of students in schools of architecture in EU is estimated around 150000 and the number of teaching staff around 15000. From the existing schools in EU, it appears that 44% present a primarily teaching oriented profile, 7% a primarily research-based profile and 49% appear to be both teaching oriented and research based.

Schools of architecture in EU have broadly adapted or are in a process of adaptation to the Bologna process (see table 1). The 72% of the schools are already adapted their curricula in the 3+2 model, the 17% remaining to the old format of 5 continuous years. 7% of the schools follow a 4+1 scheme and the rest 4% organise the curricula in 4+more than one year. This strong tendency to the 3+2 model is broadly decided by the schools themselves. The 61% of the schools reformed their curricula after their own decision and not under the obligation of a law. On the contrary the 39% of the schools is adapted to the Bologna schemes under the obligation of a new law.

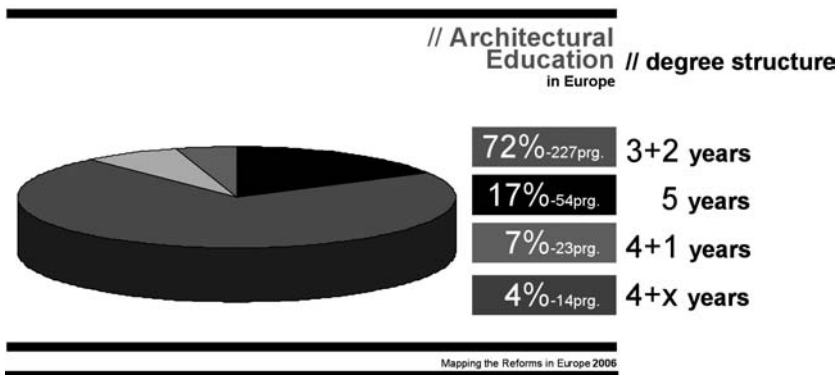


Table 1

The majority of the schools of architecture in Europe (60%) offer postmasters courses. 12% of them offer only post master degree and 48% doctorate and PhD degrees. The 39% offer only degrees equivalent to Masters giving access to the profession of the architect.

We can distinguish different profiles of the curricula in schools of architecture in EU Countries. For the schools that follow the 5 years continuous model the different versions of this model appear in the table 2.

¹ The method of collecting the requested information was the following: A questionnaire was sent to two Heads of Schools of Architecture partners of the network in each EU member state, asking them to provide data corresponding to the state of the art of the Bologna process in their Country. In case that the data provided by the two responders were not in concurrence, then the team had a direct contact with them to clarify the situation.

5 years // Architectural Education // degree structure			
64%	34%	1%	1%
five continuous years of studies without any intermediate degree. One final degree on Architecture	five continuous years of studies without any intermediate degree. Optional emphasis on specific subject areas in the last years of studies. One final degree on Architecture	five continuous years of studies without any intermediate degree. Optional specialization studies in the last years. Reference of specialization on the title of the final degree (ex. Architecture Restoration)	five continuous years of studies with an intermediate degree after 3 years delivered only to students who want to move to another school

Table 2

Mapping the Reforms in Europe 2006

We can see that the majority (98%) of schools following this model, deliver one general degree in architecture even if in some cases of specialisation appears. The areas of specialisations tend to be the restoration and conservation, the urban design, the construction and the landscape design. Only 1% delivers a specialised diploma. It is interesting to notice the optional 3+x model which delivers an intermediate degree only in case that a student wants to continue his/her studies in another institution.

For the schools that follow the 3+2 model, there are several different offered paths that students have to follow (see table 3). However, the majority of the schools that follow this model (90%) deliver a general degree on architecture even if some of them (26%) propose some emphasis on particular subject areas, which can appear as an optional initiation to a specialisation. We can distinguish two different models for specialised studies in architecture: In the first (5% of schools following the 3+2 model) the specialisation is based upon a three years cycle of general architectural studies and in the second (4%) the specialisation is started from the first cycle offering this way a fully specialised curriculum.

In the case of schools following the model 4+1, our inquiry did not register cases of specialised studies but only general architectural studies, based upon a 4 years cycle of basic studies and one year more advanced general architectural studies (see table 4) .

If in the multiplicity of models regarding the system of studies described above we add the multiplicity of the approaches to the contents of studies, we can easily understand the extremely complex situation in the profiles and the particular characteristics in architectural education in different geographic and cultural environments in Europe. This situation makes schools of architecture to be very seriously concerned about the way they will stand over the two contradictory tendencies influencing their curricula: The one which demands from them to become more European in order to participate more efficiently in the under construction Higher Education Area and through this participation to obtain a better place in the international competition of schools and of the degrees they offer to their graduates. The other requests from the Schools to protect and to promote their local (educational and cultural) characteristics in order to become more attractive in the competitive mobility of post-graduate students motivated by the demand for a more personalised education, based upon the particular career interests, priorities and preferences.

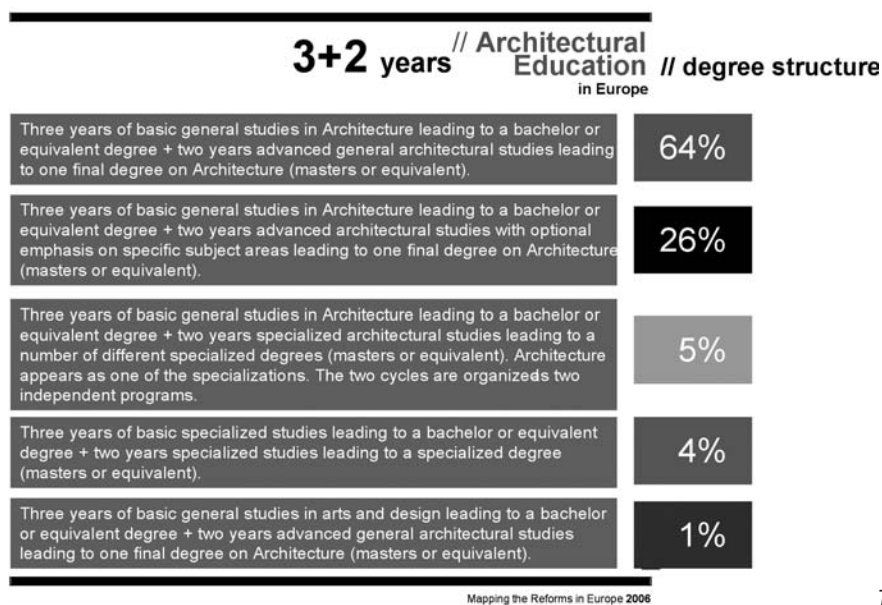


Table 3



Table 4

3. Contribution and Perspectives of ENHSA Thematic Network in Architectural Education in Europe

The above consequences of the prospect of the creation of the European Area for Higher Education within the context of the Sorbonne-Bologna-Prague-Berlin-Bergen-London process has constituted the central theme of the majority of the activities of the ENHSA Thematic Network and more specifically of the Meetings of Heads of European Schools of Architecture. This prospect has triggered off our interest in getting to know better other schools of architecture the persons involved in the decision-making for their future, and from this acquaintance to gain a deeper insight into our own schools and into our position in the European context of architectural education. What should we do about our schools in this new and increasingly changing social and financial context? What aims and objectives should we set and what strategies should we adopt to ensure their fulfilment? How we will reform and reconstruct

our educational structures, will update the content of the studies we offer and will reconsider our teaching methods and strategies? These are the fundamental questions for the answers of which our network pursue to create a constructive milieu.

For the creation of this milieu, our work went through various phases. In the debates that took place we critically followed the developments in the political context. We listened carefully to the positive as well as the negative considerations of the changes in the European context for architectural education. Moreover, from the debates we concluded that the nature of architectural education in the future is defined to a larger or lesser extent by the way in which these schools will deal with the four fundamental issues: firstly, the structure and content of architectural studies; secondly, the evaluation of the quality of school curricula; thirdly, the redefinition of the multifaceted professional profile of the architect of our days; and fourthly, the student and staff mobility, and the system of credits (ECTS).

We focused our interest on these issues and we attempted to follow the various ways in which schools of architecture deal with them. We carefully mapped the points of convergence as well as divergence, the tendencies and dynamics, the particularities and differentiations. Through a thorough inquiry at schools of architecture, valid qualitative results yielded which could describe the nature and qualities characterizing a great number of schools of architecture in Europe. We continue to map the educational approaches and teaching methods in order to be able to draw a picture of the particularities of the European profile of education, but primarily to learn from the others and to understand ourselves through this knowledge.

In times of such fundamental changes in higher education in Europe, the importance of our network became apparent as it aims to integrate, develop and preserve a lively and dynamic milieu for communication, exchange and collectivity, and to cultivate creatively, with dialogue and collaboration, the future of architectural education in Europe. For such a milieu to be kept alive, we felt from the very beginning that it must not limit itself to the level of exchange of views and information but that it should be in a position to proceed in more constructive and creative syntheses. To schedule procedures for the development of tools and mechanisms that will more decisively support schools of architecture in their effort to be integrated in the European Higher Architectural Education Area.

More specifically we focused on the curriculum and in particular on its structure and the content of studies as these two parameters encapsulate answers to the question of quality, professional identity, and the dynamics of mobility. Whilst the system of studies in most schools of architecture in Europe comes from governmental bodies, educational structures and the content of studies are primarily issues dealt with by higher education academic institutions. The need for compatibility, comparability and competitiveness of higher education in Europe, as this is suggested in this new political context, requires reliable and objective information about educational structures and the content of studies, that is to say about the educational programmes we offer. We therefore felt that we urgently need new tools and approaches in order to be able to describe our curricula as well as to recompose them in the prospect of the reforms suggested by this new political context of the European Commission.

4. The ENHSA Thematic Network in the Tuning Project

The involvement of our network into the Tuning program and the approach it indicated to restructure education resulted from our above-mentioned needs and demands. To better grasp the school curricula and to create the conditions for their comparability and innovative development, we found that it is extremely useful, and for this reason more than necessary, to redirect the focus of our initiatives over a competences-based platform. To rethink the education of the architects in terms of competences was not conceived only as a technical issue emerged by a certain strategic decision to assure comparability and transparency in educational structures. On the contrary, we consider this approach as a new paradigm in understanding education in all its levels, from the curriculum design to the pedagogy and to the teaching methods applied to the education of every specific domain of architectural knowledge.

As a new paradigm we see the competences based approach to be characterised by significant shift from a conception of education as a technical issue of knowledge transmission to its conception as a project of creating a specific profile. In this project-based conception, an educational activity can be achieved only if there is a clear and transparent description of: 1. All parameters defining the profile of the graduate (the object of the educational project). 2. All the steps and the available means of the process of the educational project development (the teaching methods, means and pedagogy). 3. All the parameters defining the profile of the educational environment and of the persons involved in the educational project.

In this approach, learning outcomes as set of competences including knowledge, understanding and skills that a learner is expected to know/understand/demonstrate after completion of a process of learning — short or long are abstractly descriptive not prescriptive. Competences represent the deep structure of the graduates profile, a kind of diagram of parameters, the definition of the contents of which is open to the particular interpretation by the school, which selects them as objectives of its mission statement to be fulfilled. As competences can be identified and related to integral programmes of study and for individual units of study (modules), they can appear as a common tool in a holistic approach to the project of education. As competences are normally obtained in different course units and can therefore not be linked to one unit, they are offered as a new background for collaboration between modules, which appear rather isolated in the traditional modularised system. To identify which units teach the various competences ensures that these are actually assessed, and that quality standards are met.

The involvement of schools of architecture in this complex task of redefining architectural education through the terms and conditions resulting from this new conception of education is not at all an easy task. It presuppose a long period of familiarisation with the notions and the terms which constitute the framework of references of this paradigm, but also a very precise results which will prove its operational value in a period of time characterised by a demand of fast and efficient reform of our educational structures. This is why our thematic network started an extended debate between the heads of schools of architecture as decision makers related the overall structure of their institutions' architectural education system in parallel with the debate between the teachers as the decisive agents of the creation of specific aspects of the overall profile of the graduates.

Most of the partners of our thematic network consider that learning outcomes and competences are the most relevant elements in the design, construction and assessment of qualifications ensured by schools of architecture, as they constitute the reference points to be met. We all consider that it is of vital importance to discuss and agree upon a kind of rank order of competences, which will be offered to schools as a tool to structure their curricula. This way each school will be able to articulate their educational objectives as well as their reference points for quality assessment. In our effort to avoid any sort of unified, prescriptive, or definitive European curriculum and stay away from any rigid set of subject area specifications to restrict or direct educational content in a way which will damage the rich diversity of European higher architectural education, the competences based approach is an appropriate strategy.

We feel that we have a lot of things to do but till now, the development of the first steps of Tuning project, gave us very significant insights and extremely useful opportunities to refresh our practices and visions on the education we are offering with innovative and inventive experimentations.

5. Tuning Architectural Education Structures in Europe

5.1 The profile of the graduates according to the academics

The ENHSA Thematic network worked on competences following Tuning methodology adapting it to the particularities of architectural education from one part and to the potential of its partners to absorb in a rather short time the innovative character of the approach from the other. This was a strategic decision from the part of the working group in order to have better results and a safest familiarisation with new logics, necessary for a creative adaptation of the new upon the old and established powerful structures. The risk for the competences-based approach to be considered as a from above imposed condition and to lose because of this reason its credibility and operational value made us to follow a step by step and long time process in our work on competences.

We worked on three main categories of competences. The generic competences, in principle,

	Bachelor	Masters	PhD
Generic Competences	20 Competences	20 Competences	20 Competences
Specific Competences on Profession	23 Competences	23 Competences	23 Competences
Specific competences on Research	18 Competences	18 Competences	18 Competences

concern the broader academic and higher education profile of an architect and are to great extent subject-independent. The definition of this category of competences was mainly based upon the generic competences formulated by Tuning with some marginal transformations necessary to bring them closer to the particularities of the architect's profile.

The approach to subject-specific competences was developed on two and complementary axes: The first axis concerned the specific competences on profession related to the graduates skills to practice the various forms of the architectural profession as these are achieved by schools of architecture today. The second axis concerned the graduates' specific competences

on architectural research related to the research in architecture. The reason for which our group incorporated in this project the research competences is related to a general strategy of our thematic network to enhance the quality and quantity of the research outcome and to contribute to the permanent claim of schools of architecture in Europe provide for architecture a better position in the research capital and to appear as one of the eligible subject area for research funding. It goes without saying that competences and learning outcomes should correspond to the final qualifications of a learning programme. Competences are conceived and described in our work as points of reference for curriculum design and evaluation, and not as straitjackets.

The working group on competences defined 20 generic competences, 23 specific competences on profession and 18 specific competences on research. These competences were inquired on their significance in the profile of a graduate of bachelor degree (three years, 6 semesters 180 ECTS).

The consultation on competences was made electronically and the number of persons who contributed was about 275 teachers from schools of architecture from most of the European countries. Even if the sample does not assure a statistical credibility of the resulted ranking, we strongly believe that it constitutes a reliable indicator of the existing tendencies and dynamics. On the other hand the aim of this inquiry was not to produce a definitely ordered list of competences but on the contrary, to offer to our partners a dynamic spectrum of competences supported by a record of temporary tendencies.

The process of consultation was developed upon five steps. In a first step the competences group worked to define the three groups of competences. In a second step the list was subject to a broader evaluation and enrichment, which took place in the framework of a meeting of Heads of European Schools of Architecture, which had the evaluation as a main theme . On the basis of the results of the debates of this meeting, the group finalised the lists and prepared the questionnaire, which was diffused electronically to a limited number of partner schools. This was the third step of a pilot circulation of the questionnaire testing its operability. The results of the pilot inquiry gave the possibility to formulate the final questionnaire, which was diffused to all partner schools. The fifth step was the final processing of the questionnaire. In this brochure we will present first the way that the three categories of competences are ranked in the different levels of qualifications and after the structure profiles of the graduates on the basis of the three categories of competences.

In this brochure we present the result of this extended inquiry on two axes: the one looking at the gravity of competences the other at the profile of the graduate. The first one concentrates on the competences and presents the three categories of competences as each one of them is differently ranked for the different qualifications. We can observe through this presentation the balance of the significance and the respect of each competence as we move from the bachelor degree to the PhD. For operational reasons we have limited our presentation to the ten most

2 The decision to define the bachelor on the base of the 3+2 model was supported by the results of the inquiry on the state of the art of the curriculum reforms in European Schools of Architecture, presented above in the section 2.

3 It was the meeting of Heads which took place in 2004 under the title "Shaping Architectural Curricula for the European Higher Education Area" (see www.enhsa.net/hm4.htm).

respected competences for each category. The second axis formulates the framework of the most respected competences for the structure of the profile of the graduates. This presentation describes the main competences, which according to a random sample of teachers in schools of architecture across Europe, should structure the profile of the graduates of the different qualifications proposed by the Bologna process. For operational reasons we have limited our presentation to the 5 most respected competences for each category and graduates profile.

5.1.1. Generic Competences

The non-ranked list of generic competences used in our inquiry was the following.

1	Ability to work in an interdisciplinary team
2	Ability to develop a trans-disciplinary understanding
3	Appreciation of the diversity and multicultural quality of contemporary European society
4	Ability to identify and work towards targets for personal, academic and career development
5	Awareness of and respect for points of view deriving from other national and cultural backgrounds
6	Ethical commitment
7	Capacity to develop an analytical and critical thinking and understanding
8	Capacity to apply knowledge in practice
9	Capacity to apply a spirit of synthesis of ideas and forms
10	Capacity to generate creatively new ideas and forms
11	Capacity to adapt proactively to changing situations
12	Capacity to evaluate ideas, proposals, forms
13	"Learning to learn" ability
14	Decision – making skills
15	High level computing skills including the ability to use the Internet critically as a means of communication and a source of information
16	Personal and social skills in expression and communication by speaking, writing and sketching
17	Ability to receive and respond to a variety of information sources (textual, numerical, verbal and graphical)
18	Basic knowledge of all the professional applications of the discipline
19	Responsibility for one's own work and ability to be self-critical in relation to that
20	Knowledge of languages
21	Other (persons participating in the inquiry had the possibility to add competences not listed in the questionnaire)

The ranked competences are presented in the three tables below. We can observe the practical technical and introductory nature of the qualification of bachelor, the more skill and knowledge-oriented nature of the master qualification and the more critical and thoughtful nature of the Phd.

15	High level computing skills including the ability to use the Internet critically as a means of communication and a source of information
13	"Learning to learn" ability
9	Capacity to apply a spirit of synthesis of ideas and forms
16	Personal and social skills in expression and communication by speaking, writing and sketching
8	Capacity to apply knowledge in practice
7	Capacity to develop an analytical and critical thinking and understanding
10	Capacity to generate creatively new ideas and forms
17	Ability to receive and respond to a variety of information sources (textual, numerical, verbal and graphical)
18	Basic knowledge of all the professional applications of the discipline
6	Ethical commitment

Generic competences of *bachelor*

Ten most respected

7	Capacity to develop an analytical and critical thinking and understanding
9	Capacity to apply a spirit of synthesis of ideas and forms
10	Capacity to generate creatively new ideas and forms
2	Ability to develop a trans-disciplinary understanding
16	Personal and social skills in expression and communication by speaking, writing and sketching
15	High level computing skills including the ability to use the Internet critically as a means of communication and a source of information
8	Capacity to apply knowledge in practice
17	Ability to receive and respond to a variety of information sources (textual, numerical, verbal and graphical)
1	Ability to work in an interdisciplinary team
14	Decision – making skills

Generic competences of *master*

Ten most respected

7	Capacity to develop an analytical and critical thinking and understanding
12	Capacity to evaluate ideas, proposals, forms
3	Appreciation of the diversity and multicultural quality of contemporary European society
13	"Learning to learn" ability
16	Personal and social skills in expression and communication by speaking, writing and sketching
17	Ability to receive and respond to a variety of information sources (textual, numerical, verbal and graphical)
2	Ability to develop a trans-disciplinary understanding
19	Responsibility for one's own work and ability to be self-critical in relation to that
14	Decision – making skills
1	Ability to work in an interdisciplinary team
7	Capacity to develop an analytical and critical thinking and understanding

Generic competences of phd

Ten most respected

bachelor	master	phd
High level computing skills including the ability to use the Internet critically as a means of communication and a source of information.	Capacity to develop an analytical and critical thinking and understanding.	Capacity to develop an analytical and critical thinking and understanding.
"Learning to learn" ability.	Capacity to apply a spirit of synthesis of ideas and forms.	Capacity to evaluate ideas, proposals, forms.
Capacity to apply a spirit of synthesis of ideas and forms.	Capacity to generate creatively new ideas and forms.	Appreciation of the diversity and multicultural quality of contemporary European society.
Personal and social skills in expression and communication by speaking, writing and sketching.	Ability to develop a trans-disciplinary understanding.	"Learning to learn" ability.
Capacity to apply knowledge in practice.	Personal and social skills in expression and communication by speaking, writing and sketching.	Personal and social skills in expression and communication by speaking, writing and sketching.

Generic competences

Comparison chart of the five most respected

5.1.2. Subject Specific Competences related to the Profession

The non-ranked list of specific competences on profession used in our inquiry was the following.

1	Ability to create architectural designs that satisfy both aesthetic and technical requirement
2	Adequate knowledge of the history and theories of architecture and related arts, technologies and human sciences
3	Awareness of the issues and themes of present day architectural debate
4	Ability to recognize and use appropriately architectural theories, concepts, paradigms and principles
5	Knowledge of the fine arts as an influence on the quality of architectural design
6	Knowledge of contemporary and historical works that have achieved the highest standards in architecture
7	Ability to abstract and present key elements and relationships
8	Adequate knowledge of urban design, planning and the skills involved in the planning process
9	Understanding of the relationship between people and buildings and between buildings and their environments, and of the need to relate buildings and the spaces between them to human needs and scale
10	Awareness of the potentials of new technologies
11	Understanding of the profession of architecture and the role of architects in society, in particular in preparing briefs that account for social factors
12	Critical awareness of the political and financial motivations behind clients' briefs and building regulations so as to develop an ethical framework for decision making within the built environment
13	Critical awareness of the relationship between current developments in architecture and the past
14	Understanding of the methods of investigation and preparation of the brief for a design project
15	Understanding of the structural design, construction and engineering problems associated with building design
16	Adequate knowledge of physical problems and technologies and of the function of buildings so as to provide them with internal conditions of comfort and protection against climate
17	Necessary design skills to meet building users' requirements within the constraints imposed by cost factors and building regulations
18	Adequate knowledge of the industries, organizations, regulations and procedures involved in translating design concepts into buildings and integrating plans into overall planning.
19	Ability to work both with a high degree of autonomy and collaboration
20	Ability to engage in self-managed and life-long learning (eg working independently, time management and organization skills)
21	Awareness of the need for continuous professional development
22	Ability to respond creatively and flexibly to changes in the professional environment
23	Ability to communicate appropriately to a variety of audiences in oral, written and graphic forms

The ranked version of the subject specific competences on profession is presented in the tables below, showing the ranking according to bachelor, master and PhD qualifications.

9	Understanding of the relationship between people and buildings and between buildings and their environments, and of the need to relate buildings and the spaces between them to human needs and scale
6	Knowledge of contemporary and historical works that have achieved the highest standards in architecture
2	Adequate knowledge of the history and theories of architecture and related arts, technologies and human sciences
15	Understanding of the structural design, construction and engineering problems associated with building design
1	Ability to create architectural designs that satisfy both aesthetic and technical requirement
6	Knowledge of contemporary and historical works that have achieved the highest standards in architecture
2	Adequate knowledge of the history and theories of architecture and related arts, technologies and human sciences
15	Understanding of the structural design, construction and engineering problems associated with building design
1	Ability to create architectural designs that satisfy both aesthetic and technical requirement
6	Knowledge of contemporary and historical works that have achieved the highest standards in architecture

Subject specific competences: profession

bachelor

Ten most respected

9	Understanding of the relationship between people and buildings and between buildings and their environments, and of the need to relate buildings and the spaces between them to human needs and scale
2	Adequate knowledge of the history and theories of architecture and related arts, technologies and human sciences
1	Ability to create architectural designs that satisfy both aesthetic and technical requirement
23	Ability to communicate appropriately to a variety of audiences in oral, written and graphic forms
3	Awareness of the issues and themes of present day architectural debate
10	Awareness of the potentials of new technologies
21	Awareness of the need for continuous professional development
15	Understanding of the structural design, construction and engineering problems associated with building design
11	Understanding of the profession of architecture and the role of architects in society, in particular in preparing briefs that account for social factors
7	Ability to abstract and present key elements and relationships

Subject specific competences: profession

master

Ten most respected

4	Ability to recognize and use appropriately architectural theories, concepts, paradigms and principles
2	Adequate knowledge of the history and theories of architecture and related arts, technologies and human sciences
23	Ability to communicate appropriately to a variety of audiences in oral, written and graphic forms
7	Ability to abstract and present key elements and relationships
3	Awareness of the issues and themes of present day architectural debate
9	Understanding of the relationship between people and buildings and between buildings and their environments, and of the need to relate buildings and the spaces between them to human needs and scale
13	Critical awareness of the relationship between current developments in architecture and the past
10	Awareness of the potentials of new technologies
6	Knowledge of contemporary and historical works that have achieved the highest standards in architecture
21	Awareness of the need for continuous professional development

Subject specific competences: profession

phd

Ten most respected

bachelor	master	phd
Understanding of the relationship between people and buildings and between buildings and their environments, and of the need to relate buildings and the spaces between them to human needs and scale	Understanding of the relationship between people and buildings and between buildings and their environments, and of the need to relate buildings and the spaces between them to human needs and scale	Ability to recognize and use appropriately architectural theories, concepts, paradigms and principles
Knowledge of contemporary and historical works that have achieved the highest standards in architecture	Adequate knowledge of the history and theories of architecture and related arts, technologies and human sciences	Adequate knowledge of the history and theories of architecture and related arts, technologies and human sciences
Adequate knowledge of the history and theories of architecture and related arts, technologies and human sciences	Ability to create architectural designs that satisfy both aesthetic and technical requirement	Ability to communicate appropriately to a variety of audiences in oral, written and graphic forms
Understanding of the structural design, construction and engineering problems associated with building design	Ability to communicate appropriately to a variety of audiences in oral, written and graphic forms	Ability to abstract and present key elements and relationships
Ability to create architectural designs that satisfy both aesthetic and technical requirement	Awareness of the issues and themes of present day architectural debate	Awareness of the issues and themes of present day architectural debate

Subject specific competences: profession

Comparison chart of the five most respected

5.1.3. Subject Specific Competences Related to the Research

The non-ranked list of specific competences on research used in our inquiry was the following.

1	Awareness of the ongoing nature of architectural research and debate
2	Critical awareness of the relationship between current architectural discourse and practice and the architecture of the past
3	Awareness of the highest standards of achievement in architecture, in design, in built work and in scholarship
4	Awareness of the moral and ethical issues of investigation and the need for professional codes of conduct in research (eg. appropriate acknowledgements of contributions, etc.)
5	Ability to define research topics which will contribute to knowledge and debate within architecture
6	Ability to formulate research questions
7	Ability to identify and use paradigms, theories concepts and methods of enquiry appropriate to the discipline and the topic of enquiry
8	Ability to identify and use appropriately sources of relevant information and to identify and use relevant retrieval tools (bibliographical sources, archival inventories, etc.)
9	Ability to prepare, process, interpret and present data using appropriate qualitative and quantitative techniques
10	Ability to work with a high degree of autonomy (eg. Accept responsibility for research project planning)
11	Ability to communicate appropriately in written, oral and graphic forms
12	Awareness of and ability to use appropriate tools of other human and physical sciences (eg. Literary criticism, art history, philosophy, studies in constructional analysis, etc.)
13	Ability to use IT and Internet resources (statistical, cartographical methods, database creation, etc.)
14	Ability to collect and integrate several lines of evidence to formulate and test hypotheses
15	Ability to plan, conduct and report on investigations
16	Ability to write in one's own language, using correctly the various types of architectural literature
17	Ability to reference sources accurately and appropriately
18	Ability to evaluate evidence and draw appropriate conclusions

The ranked version of the subject specific competences on research is presented in the tables below, showing the ranking according to bachelor, master and PhD qualifications.

13	Ability to use IT and Internet resources (statistical, cartographical methods, database creation, etc.)
11	Ability to communicate appropriately in written, oral and graphic forms
3	Awareness of the highest standards of achievement in architecture, in design, in built work and in scholarship
18	Ability to evaluate evidence and draw appropriate conclusions
16	Ability to write in one's own language, using correctly the various types of architectural literature
8	Ability to identify and use appropriately sources of relevant information and to identify and use relevant retrieval tools (bibliographical sources, archival inventories, etc.)
17	Ability to reference sources accurately and appropriately
4	Awareness of the moral and ethical issues of investigation and the need for professional codes of conduct in research (eg. appropriate acknowledgements of contributions, etc.)
2	Critical awareness of the relationship between current architectural discourse and practice and the architecture of the past
1	Awareness of the ongoing nature of architectural research and debate

Subject specific competences: research

bachelor

Ten most respected

11	Ability to communicate appropriately in written, oral and graphic forms
18	Ability to evaluate evidence and draw appropriate conclusions
8	Ability to identify and use appropriately sources of relevant information and to identify and use relevant retrieval tools (bibliographical sources, archival inventories, etc.)
13	Ability to use IT and Internet resources (statistical, cartographical methods, database creation, etc.)
17	Ability to reference sources accurately and appropriately
16	Ability to write in one's own language, using correctly the various types of architectural literature
3	Awareness of the highest standards of achievement in architecture, in design, in built work and in scholarship
1	Awareness of the ongoing nature of architectural research and debate
5	Ability to define research topics which will contribute to knowledge and debate within architecture
2	Critical awareness of the relationship between current architectural discourse and practice and the architecture of the past

Subject specific competences: research

master

Ten most respected

17	Ability to reference sources accurately and appropriately
8	Ability to identify and use appropriately sources of relevant information and to identify and use relevant retrieval tools (bibliographical sources, archival inventories, etc.)
18	Ability to evaluate evidence and draw appropriate conclusions
5	Ability to define research topics which will contribute to knowledge and debate within architecture
11	Ability to communicate appropriately in written, oral and graphic forms
1	Awareness of the ongoing nature of architectural research and debate
16	Ability to write in one's own language, using correctly the various types of architectural literature
6	Ability to formulate research questions
10	Ability to work with a high degree of autonomy (eg. Accept responsibility for research project planning)
14	Ability to collect and integrate several lines of evidence to formulate and test hypotheses

Subject specific competences: research

phd

Ten most respected

bachelor	master	phd
Ability to use IT and Internet resources (statistical, cartographical methods, database creation, etc.)	Ability to communicate appropriately in written, oral and graphic forms	Ability to reference sources accurately and appropriately
Ability to communicate appropriately in written, oral and graphic forms	Ability to evaluate evidence and draw appropriate conclusions	Ability to identify and use appropriately sources of relevant information and to identify and use relevant retrieval tools (bibliographical sources, archival inventories, etc.)
Awareness of the highest standards of achievement in architecture, in design, in built work and in scholarship	Ability to identify and use appropriately sources of relevant information and to identify and use relevant retrieval tools (bibliographical sources, archival inventories, etc.)	Ability to evaluate evidence and draw appropriate conclusions
Ability to evaluate evidence and draw appropriate conclusions	Ability to use IT and Internet resources (statistical, cartographical methods, database creation, etc.)	Ability to define research topics which will contribute to knowledge and debate within architecture
Ability to write in one's own language, using correctly the various types of architectural literature	Ability to reference sources accurately and appropriately	Ability to communicate appropriately in written, oral and graphic forms

Subject specific competences: research

comparison chart of the five most respected

5.1.4. Competences framing the profile of the graduates from different qualifications

The next three tables present the profile of the graduates from each one of the degrees offered by the European system of architectural education. For the working group on competences these tables constitute a very first approach to the formulation of a qualifications framework for architectural education.

bachelor generic	bachelor profession	bachelor research
Capacity to develop an analytical and critical thinking and understanding.	Ability to recognize and use appropriately architectural theories, concepts, paradigms and principles	Ability to reference sources accurately and appropriately
"Learning to learn" ability.	Knowledge of contemporary and historical works that have achieved the highest standards in architecture	Ability to communicate appropriately in written, oral and graphic forms
Capacity to apply a spirit of synthesis of ideas and forms.	Adequate knowledge of the history and theories of architecture and related arts, technologies and human sciences	Awareness of the highest standards of achievement in architecture, in design, in built work and in scholarship
Personal and social skills in expression and communication by speaking, writing and sketching.	Understanding of the structural design, construction and engineering problems associated with building design	Ability to evaluate evidence and draw appropriate conclusions
Capacity to apply knowledge in practice.(8)	Ability to create architectural designs that satisfy both aesthetic and technical requirement	Ability to write in one's own language, using correctly the various types of architectural literature

bachelor

all competences related to bachelor

master generic	master profession	master research
Capacity to develop an analytical and critical thinking and understanding.	Understanding of the relationship between people and buildings and between buildings and their environments, and of the need to relate buildings and the spaces between them to human needs and scale	Ability to communicate appropriately in written, oral and graphic forms
Capacity to apply a spirit of synthesis of ideas and forms.	Adequate knowledge of the history and theories of architecture and related arts, technologies and human sciences	Ability to evaluate evidence and draw appropriate conclusions
Capacity to generate creatively new ideas and forms.	Ability to create architectural designs that satisfy both aesthetic and technical requirement	Ability to identify and use appropriately sources of relevant information and to identify and use relevant retrieval tools (bibliographical sources, archival inventories, etc.)
Ability to develop a trans-disciplinary understanding.	Ability to communicate appropriately to a variety of audiences in oral, written and graphic forms	Ability to use IT and Internet resources (statistical, cartographical methods, database creation, etc.)
Personal and social skills in expression and communication by speaking, writing & sketching.	Awareness of the issues and themes of present day architectural debate	Ability to reference sources accurately and appropriately

master***all competences related to master***

phd generic	phd profession	phd research
Capacity to develop an analytical and critical thinking and understanding.	Ability to recognize and use appropriately architectural theories, concepts, paradigms and principles	Ability to reference sources accurately and appropriately
Capacity to evaluate ideas, proposals, forms.	Adequate knowledge of the history and theories of architecture and related arts, technologies and human sciences	Ability to identify and use appropriately sources of relevant information and to identify and use relevant retrieval tools (bibliographical sources, archival inventories, etc.)
Appreciation of the diversity and multicultural quality of contemporary European society.	Ability to communicate appropriately to a variety of audiences in oral, written and graphic forms	Ability to evaluate evidence and draw appropriate conclusions
"Learning to learn" ability.	Ability to abstract and present key elements and relationships	Ability to define research topics which will contribute to knowledge and debate within architecture
Personal and social skills in expression and communication by speaking, writing and sketching.	Awareness of the issues and themes of present day architectural debate	Ability to communicate appropriately in written, oral and graphic forms

phd***all competences related to phd***

5.2 The Profile of the Graduates According to the Professionals

The second part of the inquiry that ENHSA thematic Network run on competences concerned the profile of the graduates according to the professionals. The questionnaire we had prepared, presented to the professionals a list of competences and asked them to proceed to a double consideration. The first was the evaluation of the gravity of each one of the competences according to an ideal profile of a graduate. The second concerned the estimation of the degree to which each competence is assured by the education offered to the graduates by the schools of architecture. With this double ranking we can see the degree to which, according to the professionals, the existing educational structures assure the most significant and respected competences.

	competences ranked by the professionals	% grade
3	Capacity to develop an analytical and critical thinking and understanding	66
4	Personal and social skills in expression and communication by speaking, writing and sketching	61
1	Ability to work in an interdisciplinary team	58
5	Ability to work both with a high degree of autonomy and collaboration	62
20	Ability to create architectural designs that satisfy both aesthetic and technical requirements	57
7	Capacity to apply knowledge in practice	52
21	Necessary design skills to meet building users' requirements within the constraints imposed by cost factors and building regulations	47
11	Ability to evaluate evidence and draw appropriate conclusions	57
10	"Learning to learn" ability	62
6	Ability to develop a trans-disciplinary understanding	53
26	Understanding of the structural design, construction and engineering problems associated with building design	54
9	Capacity to apply a spirit of analysis and synthesis of ideas and forms	64
24	High level computing skills including the ability to use the Internet critically as a means of communication and a source of information	68
19	Planning and time management skills	43
17	Basic knowledge of all the professional applications of the discipline of architecture	57
2	Ethical commitment	59
13	Ability to receive and respond to a variety of information sources (textual, numerical, verbal and graphical)	62
27	Adequate knowledge of physical problems and technologies and of the function of buildings so as to provide them with internal conditions of comfort and protection against climate	52
8	Capacity to generate creatively new ideas and forms	71
28	Awareness of and respect for energy and sustainability management	56
16	Critical awareness of the political and financial motivations behind clients' briefs and building regulations so as to develop an ethical framework for decision making within the built environment	47

	competences ranked by the professionals	% grade
15	Ability to plan, conduct and report on investigations	53
22	Understanding of the methods of investigation and preparation of the brief for a design project	55
18	Decision – making and management skills	45
29	Adequate knowledge of urban design, planning and the skills involved in the planning process	57
33	Adequate knowledge of the industries, organizations, regulations and procedures involved in translating design concepts into buildings and integrating plans into overall planning	46
34	Ability to identify and use appropriately sources of relevant information and to identify and use relevant retrieval tools (bibliographical sources, archival inventories, etc.)	57
14	Awareness of the issues and themes of present day architectural debate	68
12	Awareness of and respect for points of view deriving from other national and cultural backgrounds	56
23	Adequate knowledge of the history and theories of architecture and related arts, technologies and human sciences	67
30	Adequate knowledge skills involved in the conservation and restoration of buildings	48
32	Adequate knowledge and skills involved in interior design	52
25	Knowledge of languages	51
31	Adequate knowledge and skills involved in landscape design	47
% Grade of successful development by the Schools of Architecture in Europe		Average grade 57,52%

From the above table we can observe a general mistrust from the part of the professionals to the architectural education environment. The most significant competences are not considered as very well covered by the education system, creating this way a gap between profession and education. As the collaboration between profession and education become more and more necessary in our fast changing and reforming world, the results of this inquiry showing us a possible ground on which this collaboration can be developed: the common project to raise the degree to which are covered the significant for the profession competences. It does not at all mean that the schools have to be adapted to the demands of the profession since as academic institutions they have to educate architects (and not only to train professionals) and to remain autonomous in this project. On the contrary we can see through the elaborated data that this gap can easily be covered into the framework of the Lifelong Learning perspective.

Discussion

Constantin Spiridonidis, Thessaloniki, GREECE

Thank you, Mano. At this point I would like to add that the countries that are not incorporated in this enquiry were Rumania, Turkey, Croatia and Latvia. I hope that we will soon have the information from these countries so that we will be able to form a better picture. The concept behind this enquiry was just to see which kinds of models of education are provided by European schools of architecture. We spoke about programmes and not about schools because there are cases where in the same school there are different programmes, which made it impossible to record data based on schools. I would like to hear your initial reactions to the data. Manos and I are at your disposal to answer any questions you may have.

Herman Neuckermans, Leuven, BELGIUM

I would like to say something about the number of schools in Europe. The number I had in mind was about 350, is that wrong? Because, although I realise that four countries are missing, your total is 254.

Constantin Spiridonidis, Thessaloniki, GREECE

Let us look at the figures. The number 254 is the number declared by the persons who completed the questionnaire. I cannot imagine that even with the addition of the four missing countries it would be possible to reach 350. However, the question focused on schools recognised by the state, so maybe that is where the difference lies. Also, we had some difficulty in collecting the necessary information from Germany because we do not have many participants from that country. We asked our colleagues Christian Huetz from Regensburg and Heiner Krumlinde from Bochum to send us information, but they were able to send us only very partial information, without figures. So we searched the Internet and visited some websites that had information on this type of degree structure and that is where we got the figures. According to these websites, there are 64 schools of architecture in Germany, but I do not know how accurate that figure is.

David Porter, Glasgow, UNITED KINGDOM?

First of all, I would like to congratulate you on the work you and your colleague have done. I think that it is not just useful but extremely important. I want to make a small comment on the fact that we are still thinking in terms of years of study rather than credits, and I wonder whether there would be an advantage, as we move towards increased flexibility and different learning patterns, in calculating in terms of credits earned rather than years.

Constantin Spiridonidis, Thessaloniki, GREECE

I understand what you are saying and to answer you, I would like to tell you of the discussion we had in Brussels. I think that it is very important to make a more systematic analysis, asking for information directly from the schools, but in the very limited time we had this was not possible. Our analysis was presented on the basis of states and we considered that it would be very difficult in such a record to go into the details. We have already surpassed the limit of possible information, just by asking, for example, some extra information about

the schools. For instance, the question on whether a school can change the structure of its curricula autonomously or whether it depends upon a state decision, was as far as we could go for the time being.

Incidentally, it was very interesting to see in the response to this question that there is a very strong autonomy in schools of architecture, since more than 50% are in a position to make their own decisions. The reason that we asked this question was to see whether the reforms that the schools are experiencing these past years were imposed by the state or have emerged from the internal dynamics of the schools themselves. Our feeling was that the reforms were imposed by the state, but it was very interesting to see that beyond the influence of the state there is also an internal dynamic of change.

We think that it is necessary to proceed with something more systematic and in such a case we will need all your help. And if we, here, as a group, decide to go deeper, then at the same time we must all understand that we have an obligation to contribute.

Adrian Joyce, Brussels, BELGIUM

Thank you, Dinos. I was very interested in the results as well, and congratulations on what seems a very well carried out survey. There are two questions that I would like to pose. My first question is whether it is possible to say which countries, not which programmes, have the structure of 4+1, and this relates to the discussion we will have this afternoon about recognition at a European level. My second question is whether it is too early to have an idea of the mobility of students, who after the first cycle move to other schools for their Masters, and if so, what the schools are doing about equivalence and recognizing initially a BA degree before allowing a MA degree? I know it is a huge question.

Constantin Spiridonidis, Thessaloniki, GREECE

Yes. Of course, you are right in that this is a big question. However, if you want my estimation, I think that it is too early. My impression is that everything happens in the perspective of mobility. There is a strong debate about the possibilities of this mobility and at times it becomes a central argument of those in favour of the reforms. Of course, it would be very interesting to examine whether there really is a will or a tendency for mobility, or whether it is just a pretext to initiate some changes. In any case, I think that it is too early to tell, because the schools have very different systems and I think that it is not possible to make valuable estimations at this time. I also wanted to repeat that we were not able to include such estimations in our enquiry, because we were just trying to get some initial information so that we could create some sort of picture of the state of the art.

Almula Koksai, Istanbul, TURKEY

Before asking my question, I would like to apologise for not being able to take part in this survey, due to academic vacation time, but I will make sure that at least my school will contribute to this very valuable and important effort. I too would like to congratulate you on this initiative because I think that it is very important even to begin a debate based on these figures.

If we could go to the beginning of the presentation, I would like to ask you for some clarification. Now, my math is terrible, so if I have made a mistake please correct me. I see that there are 254 schools and that the number of the students enrolled in these schools is 150,000. If you calculate how many students belong approximately to each school, I think the number you

reach is a bit drastic. Maybe the number of students is inflated because of Socrates mobility programmes, but as a first impression it seems a bit high to me, so I just wanted to ask where these numbers came from.

Constantin Spiridonidis, Thessaloniki, GREECE

I just made the calculations and the result is 600 students; but please take into account that this is not the approximate number of students in each year, but the total number of students in each school.

Almula Koksai, Istanbul, TURKEY

Yes, I understand. Also, if you compare the number of students to that of academic staff, again it seems that the number of students is pretty high, so the other thing I wanted to ask was whether the survey focused on full-time professors or on all academic staff and whether you know what the ratio is of each school's full-time professors to part-time professors.

Constantin Spiridonidis, Thessaloniki, GREECE

First, please let me remind you not to consider these figures as entirely accurate or reliable, for the reasons I have already explained. I would also like to say that many people had difficulty in answering this question, "What is happening in schools of architecture in your country?", with regard both to the figures and to the structure. It was also very difficult for our colleagues to answer the question regarding, which systems of studies are being developed in their school and in the schools of their country, because they did not have the information.

This was a difficulty that we could not have imagined when we began to think about this. I thought that if someone were to ask me how many schools there are in my country, I would be able to give a number, and if someone asked me to make an estimation of the number of students, again I would more or less know the answer. Of course, I do not know exactly how many staff members there are, but I can make an estimate. However, it appears that in many countries, not in just one or two, it was not possible to give even an approximate answer. Especially in countries where there are a lot of schools, participants had great difficulty in answering these questions. As far as I can remember there were some countries that did not give information about this at all, simply because they did not know.

So, in answer to your question, it is very likely that this number is missing some bodies of students and staff members, and therefore, I do not think that it is worth making the division and looking for the ratio of students and staff members at the moment; such information could be gathered only after a systematic approach by each school separately and a lot of research.

Almula Koksai, Istanbul, TURKEY

I understand the challenges posed by these issues. I was just thinking about the numbers, and I think they directly affect the methodology of the structure of education, as well as which kind of approach you take. For example, if you are building your structure based mainly on full-time staff you become a different kind of institution than if the majority of your staff were professional practitioners. This is why I asked this question, because I think it has a significant effect on the structure of a school. In closing, I would just like to say again that I understand

the challenges you are faced with and, on another note, I would also like to ask whether you plan to post this study on the Internet.

Constantin Spiridonidis, Thessaloniki, GREECE

Yes, I understand. And, yes, we will certainly post it on the Internet.

Leen van Duin, Delft, NETHERLANDS

I am interested in the differences presented between countries, because if you look at the figures you see that there are huge differences between, for example, countries like the United Kingdom and the Netherlands. In the United Kingdom most of the schools are small but there are a lot of schools, whereas in the Netherlands we have only six or seven schools but they are huge. Also, in Italy, as far as I understand, the schools are even bigger. So, if it is possible, I think it would be interesting to say something about the differences between countries.

Constantin Spiridonidis, Thessaloniki, GREECE

I am afraid that it is not very easy to do that at the moment. Let me point out, that in the questionnaire, where we were asking about the number of schools and then the number of students in each school, we had a sub-question about the number of students found in the smaller schools and in the larger schools, so that we could investigate the different characters of the institutions within a country. Unfortunately, this was not an easy question for participants in countries that have a lot of schools of architecture to answer in the limited time they had.

So please consider this as a very first attempt to collect information, and know that we are thinking about continuously updating this information. It is not very clear yet how we will go about achieving our goal, but we want to make some sort of mechanism to which we can all contribute further information and which could be posted on our Website where it will of most use to us all. I think that if we can do this, it would be a significant step.

What we have presented here is the maximum that we can reveal from our effort so far and the maximum that we could do in the limited time we had. However, there are some aspects that we could produce fairly quickly, such as the ratio between private and public schools, for example.

Christian Kuhn, Vienna, AUSTRIA

I wanted to add something to your claim that 60% of schools can choose their curriculum autonomously. I understood the question to mean whether a school needs state approval for changing the curriculum. This is true in Austria. The schools can change the curricula without the approval of the Ministry, but taking the Bologna process as a background, the Ministry puts forward a very strict structure, so we have to follow a 3+2 system; at least, it is defined by the state that the Bachelor degree must be three years, but the Master's degree can be either two years or three years. So maybe I understood the question incorrectly. Many of the European states that follow the Bologna process are probably in a similar situation: on one hand, the state is continually de-regulating, but on the other, there are some frameworks that are very, very strong. Do you share this observation?

Constantin Spiridonidis, Thessaloniki, GREECE

First, let me explain the idea behind the question. The idea was to examine whether schools are able to change the structure of the curriculum, not the curriculum as such. I mean, we were asking about the system, not whether a school can make some internal reforms – not the content of the studies, but the structure of the studies. So the question was whether schools have the right to change the structure of their curriculum autonomously or whether they are dependent on the state.

Christian Kuhn, Vienna, AUSTRIA

Maybe the reason I understood this differently is because there is no longer any discussion in Austria about this. There was a discussion five years ago, but now it is finished. There is no chance at the moment, and probably for many years to come, of following anything but the 3+2 system. We have some schools that still have five-year diploma courses but they may not change anything within these courses, because if they do they will have to change the whole system. But, still, it was very important to us that the de-regulation took place, because before we had to ask the ministry about every small change. So there is definitely a big advantage in our current situation, and if you asked me whether we are more autonomous than before I would say yes, but not regarding the structure of the curriculum.

Constantin Spiridonidis, Thessaloniki, GREECE

So which way did you answer this question in the questionnaire?

Christian Kuhn, Vienna, AUSTRIA

I answered positively, that we are autonomous.

Constantin Spiridonidis, Thessaloniki, GREECE

Yes, ok. I see why you answered “yes”, even though according to the way we had thought of the question your answer should have been “no”.

Manuel Nicolau Brandao, Porto, PORTUGAL

I would also like to apologise for not being able to answer the questionnaire, for similar reasons as our colleague from Turkey, but our school will certainly do so. First, I want to ask you whether you found any school with a 5+1 system, and also, whether any state has not yet followed the Bologna process. I ask, because most of the schools in Spain are like that, and some in Portugal too. In my school, five complete years and one for the final thesis are required to get a license. But you will see more about this when we too fill in the questionnaire.

The other thing I wanted to say is that I think it is necessary to cross-reference this information with the Bologna process, because, in Portugal, for instance, of 26 schools of architecture, only 5 follow the Bologna process at the moment. The others are changing very slowly. Also, I do not agree with the interpretation that has just been made, that Bologna obliges us to have a 3+2 system. This is why our school has not yet applied this system, but we are being pressured by the Ministry, the state, into this discussion, so maybe we will have to.

Marko Savić, Belgrade, SERBIA

I will continue the discussion in the same spirit. Four years ago we had another discussion here, which was also based on statistical data, regarding the changes taking place in the schools, and my question is, whether you have made some kind of comparison between that information and the data that we have now. Another reason that I ask is that four years ago, we were also asked to make a prediction of changes and I am very curious to see whether those predictions were correct.

Constantin Spiridonidis, Thessaloniki, GREECE

I cannot answer you offhand, but indeed I had that in mind. I do not know if you remember, but four years ago 10% of the schools were about to follow the 3+2 system, plus some, I think they were about 20, that were already following it. I do not remember the prediction, but I do not think that it was 60%. It was less. However, I do indeed agree with you that we have to capitalise on previous experience and make such comparisons.

Richard Foque, Antwerp, BELGIUM

My comment is related to what my colleague from Vienna said. I think that indeed, in a lot of countries, the government gives you a framework to work in, but within that framework you have a sort of freedom.

I would also like to say something related to the question of mobility, which Adrian Joyce mentioned previously. I agree with you, Dinos, that maybe it is too early to give results about mobility – especially regarding the mobility of students who have completed BAs and move elsewhere for their MAs. However, I think that when we get to the point of discussing this at length, we must differentiate between mobility within the same country as well as between member states. I think that this is important because all member states have different regulations controlling access to the profession, so students may stay in their own countries to get their initial degree and then go elsewhere. I think that this is something that we should consider in a future study.

Kestutis Zaleckis, Kaunas, LITHUANIA

I have a very short question. Is it possible, on the basis of the information you have collected to map the difference between the number of students and academic staff members?

Constantin Spiridonidis, Thessaloniki, GREECE

What do you mean by 'differences'?

Kestutis Zaleckis, Kaunas, LITHUANIA

I mean differences between countries.

Constantin Spiridonidis, Thessaloniki, GREECE

Theoretically, yes, but we did not consider this question in preparing the presentation.

Kestutis Zaleckis, Kaunas, LITHUANIA

If we had a clear picture of the numbers then we could go deeper and do more of these kinds of cross-references.

Constantin Spiridonidis, Thessaloniki, GREECE

Yes, indeed.

Peter Garbrijelčić, Ljubljana, SLOVENIA

Please note a very serious problem. In Austria the schools are dependant on governmental politics and they have to choose the 3+2 system. In Slovenia we are quite independent in our decision and schools are already following those 11 points, but we have a continuous five-year programme. In the future there will be a question about mobility. BA students should not have any problems in coming to Slovenia after the three years to complete the final two years, but that should also work in the opposite way. But this is a question for the future. Thank you.

Jordi Querrol, Barcelona, SPAIN

Thank you, Constantino. I think that everyone has said what needs to be said about this wonderful work that you have done and congratulated you and your team. My intervention is to ask you a favour. As you said, in the future it will be better, because you will have more time to gather information, and this was only the beginning of your task. I think that we have heard with much curiosity a work, which is a statistical work, and now I want to ask a favour that either Constantin or you could help me with. Being here in Greece all of us know that this famous member of ..., 1416, Pythagoras, ... the number P. Everybody knows that works all over the world... I ask you the favour that when the statistics are finished, in the prologue, at the beginning, who was in Europe? Because I am sure that it is known in this room. Who was an impresario, like Pythagoras, that invented this horrible thing, the 3+2 to write upon it?

Constantin Spiridonidis, Thessaloniki, GREECE

Thank you for the historical analysis, Jordi. But I would like to point out that our purpose was not to make statistics. Our purpose was to see how many models of educating architects actually exist in Europe. It is interesting that when we organised the questionnaire we tried to make up different versions, and because it is not very easy to know all the possible models we thought of more than what in reality exists; in the list of possible structures, for example, we had eleven or more, some of which did not appear at all. So what was presented today is just what was recorded as structure. The figures exist not only to show all the different tendencies but also the distribution of these models. We consider that this is important exactly because we do not know what is happening within other countries, and when looking at the whole of Europe, it is even more difficult to understand what other versions could appear. On the other hand we would like very much to see the different interpretations of the Bologna accord, because we believe that is not just one thing defined by the accord and we would like to see its different aspects. Even the 3+2 system is not applied in the same way everywhere; in our survey we found four different versions of it.

Frederik Shetelig, Trondheim, NORWAY

My question is about the 3+2 structure. We worry a lot about this 3-year degree and of whether it represents some sort of threat of leakage into the market of half-studied architects, and I think, that for many of us, this is really the main concern. I also appreciate your mapping. It is a very interesting picture of Europe. Is it possible also to map the process involved in getting licensed to practice as an architect in each country? And what is the structure? Is it a double structure? Is it in the form of an academic degree and then an examination by a professional body? And is there a market for architects who have had three years of study? This would be very interesting information to have.

Constantin Spiridonidis, Thessaloniki, GREECE

I would like to clarify at this point that the question was: "What is the structure of studies, which give access to the profession?" So what was recorded here was the structure of the studies until the moment a person has the right to work as an architect, not what someone could do after three years of study in the 3+2 system. The question deals with being able to work as an architect, and not what the conditions are to enter the market and work as an architect.

Herman Neuckermans, Leuven, BELGIUM

I had the intention of making a general comment. Looking over all the figures, we all think that the numbers have to be interpreted in ranges because of the different interpretations of all the responses. If I recall correctly, I think that it was in 2001 that one of the major concerns here was that Bologna would kill diversity, and one of our statements was that we like to have diversity. This enquiry proves the members' diversity, although I do not know whether or not there was greater diversity before.

The other thing I want to say is in answer to the question of the speaker from Trondheim. In the EAAE Newsheets, No 60 and No 61, from 2000-2001, you will find information regarding fifteen countries on all these processes (examinations, etc.) that occur between receiving the diploma and getting access to the profession.

Peter Garbrijelčić, Ljubljana, SLOVENIA

There was a question about what we think are the most important problems, do you have any commentary on the answers?

Constantin Spiridonidis, Thessaloniki, GREECE

No, I am afraid not. As I said earlier there were aspects of this questionnaire that it was not possible to develop. But, as Peter says, there was a question about what are considered to be the major issues in each country. Of course, these are subjective and depend upon personal responses to the question, but it would be interesting to see what similarities there are. The elaboration of the answers to this question was much more difficult because we had to process the information in a completely different way and it was not possible to do so in the time we had, but indeed it is a very interesting issue.

Manos Zaroukas, Thessaloniki, GREECE

As you just said, we did not go into much detail in processing this data, but as far as I remember the most important problems had to do with the transition from student to professional architect through the different degree structures. Also, many countries had internal or local problems, so it was very difficult in this first approach to see what similarities there were so as to find one problem considered the most important in the different countries in Europe. Mostly, each country responded with their internal problems according to their degree structure and the general context they exist in.

Constantin Spiridonidis, Thessaloniki, GREECE

The answers rather reflect the diversity that Herman mentioned earlier.

Guido Morbelli, Torino, ITALY

First of all, let me say that it is very nice to see all of you.

I think that it is very interesting to follow the statistics of the schools. I see from the data that the average number of students in the European schools of architecture is 600. In Italy as someone mentioned earlier we have very large schools and also small schools. I am the President of one course of studies at the Second Faculty of the Polytechnic in Turin, a small town in Italy, and I have 500, which is almost the European average. There are four courses of studies in the Second faculty, and another four in the First Faculty. Each course has approximately 500 students, which means that in the whole Polytechnic we have around 4000 students.

I would like to suggest something regarding what you said earlier about the difficulty you have had in gathering a lot of the information. In collecting data on nations where the education framework is set by the state, where there is a sort of central administration, is it possible to approach the Ministries directly and ask them for the information? I was thinking about countries such as Italy and France, where the universities are funded by the state.

Constantin Spiridonidis, Thessaloniki, GREECE

I think that it might be more difficult to approach all the ministries, but thank you for the suggestion.

Spyros Raftopoulos, Athens, GREECE

Do we have a picture of whether each country, or whether in each country, all the schools apply the same structural system, or even whether they apply the Bologna requirements as a total? Or do we have a variety of applications in each country, which would mean that they do not comply with the Bologna accord? We have a general overview of the varieties of structures applied in countries in Europe, so if we could have the full details for each country, we could also present the existing situation in each country. This could be our next goal: a mapping of Europe indicating not only the general framework but also what is happening in each country, so that we could have these kinds of details and cross-references.

Constantin Spiridonidis, Thessaloniki, GREECE

I think that it is possible. My feeling is that in most of the countries there are different structures of curricula.

Spyros Raftopoulos, Athens, GREECE

It is not a kind of 'blanket application' everywhere.

Constantin Spiridonidis, Thessaloniki, GREECE

No.

Spyros Raftopoulos, Athens, GREECE

Thank you.

Jean-Paul Scalabre, Paris, FRANCE

Just a comment related to the situation in France. You may know that in France we used to have 6-year courses, but in conforming to Bologna our system was transformed into a 3+2+1, so that now it is more like a 5+1 system. Perhaps this is a French specificity that you have not found in other countries, but this is the reality of the situation in France and I mention it because I do not think you referred to it. It is a 3+2 system, BA and MA, and then there is one more year with specific courses organised by the schools.

Constantin Spiridonidis, Thessaloniki, GREECE

In order to have access to the profession you must complete all six years?

Jean-Paul Scalabre, Paris, FRANCE (Chairman of the ACE)

Yes.

Constantin Spiridonidis, Thessaloniki, GREECE

We tried to record everything that appeared. Our information depends on the responses sent to us. Maybe we have to work some more on this.

Marko Savić, Belgrade, SERBIA

It is very obvious in this discussion that the thematic issues developed for the conference are totally intermixed, and this is good, because it reaffirms the structure of the conference. I must agree with Herman, in that it is most important for schools to keep their differences and diversity. Actually, it is this diversity that is the problem with regard to the mobility of students and professionals. Regardless of the fact that Serbia is still not in the European Union, it seems that Europe is the instrument of notification of the changes in architectural education and the accreditation processes that exist. Could we maybe publish, translate and generally, make such information easily available, because all of our schools must pass some kind of accreditation in the next few years and if we collected the information from the accreditation agencies, we could compare the structure of the schools and we could better discuss these problems that we have at present.

Pantelis Nikolakopoulos, Athens, GREECE

I think that the work you have been doing is very useful and very helpful. As a second phase or step, I think that it might be useful to have information on how many students actually complete

the 3+2 programme. Personally, I believe that a large percentage of the students do finish the whole five years. It may be relative, but I think that it is very important to see if this five-year course of studies actually works. To this end, I think that it would also be very helpful to see and compare where the courses of theory and history are placed within the five-years of continuous study programmes and the 3+2-year programmes, and also make a general comparison of the first three years of each system, because I believe that they have a great affect on the quality of architectural studies. I think that we have to go deeper and try to see how the implementation of the 3+2 system affects or alters the strategy with a system of studies.

Constantin Spiridonidis, Thessaloniki, GREECE

But of course that is a totally different type of enquiry.

Pantelis Nikolakopoulos, Athens, GREECE

I think it is the next phase. I think that this will begin to explain what will happen with the implementation of the 3+2-year programme.

Constantin Spiridonidis, Thessaloniki, GREECE

Yes. And I would just like to add that our purpose was not just to present figures and statistics but to create and challenge opportunities for debate on the content and the essence of all these things. Moreover, the idea of having this presentation at the beginning of the meeting was to provoke issues and themes for further debate, not confined to the level of figures and models, but on the real essence and content of these things, and I hope that we will have the opportunity to do so in the next sessions as well.

Session 3

EU Recognition

Chair: **Per Olaf Fjeld**, Oslo, Norway

Introductory Panel from representatives of the European Association for Architectural Education, Architects Council of Europe, Advisory Committee and the European Commission:

James Horan, Dublin, Ireland, EAAE

Adrian Joyce, Brussels, Belgium, ACE

Joao-Armando De Abreu Rocha, Brussels, Belgium, EU

Per Olaf Fjeld, Oslo, NORWAY

We will have three short lectures this afternoon; they are all centred on different aspects of the same topic, which is EU Recognition. This is a topic that I am sure we are all eager to know more about and I hope that the panel can offer us this opportunity. There will be no discussion between the three lectures; we will hear them all and discuss them afterwards.

The first lecture is by James Horan, former president of the EAAE, now a member of the Council. The second is by Adrian Joyce, senior councilor to the Architects' Council of Europe. Let me point out that the EAAE and the ACE have had a lot of communication throughout the year, which has been fruitful for both sides, and I would like to take this opportunity to thank Adrian Joyce for making this possible and for the results that have come from this joint effort. Our third lecture is by Joao de Abreu Rocha, the Secretary of the Advisory Committee of the Architects Directive, and in this sense, he represents the perspective of the European Commission, as James and Adrian respectively, could be seen to represent the educators and the profession.

So let us begin. Please, James, the floor is yours.

Intervention

James Horan, Dublin, IRELAND

By way of introduction, I will say a few words to those people who are here in Chania for the first time. This is the ninth meeting of the Heads of Schools of Architecture and since the beginning, we have been debating different aspects of architectural education and have dealt with many aspects from how various subjects in architecture are taught, the differences between individual Schools of Architecture and the relationship between education and profession, to name but a few. This particular session will deal with aspects relating to EU Regulation and the Architects' Directive.

I was first invited to Chania because of my role as a Member of the Advisory Body on the Education and Training of Architects to the European Commission in Brussels. Briefly, the background is as follows.

The Architects' Directive which came into being in 1985 has been the regulating document and the document to which Schools of Architecture refer in order to become recognised and listed under that Directive.

It is important to identify that the Directive is about mutual recognition of qualifications and the consequent mobility of Architects throughout the European Union. It is not about accreditation or validation in individual Member States. Once a qualification conferred by a School of Architecture has been deemed to comply with the Directive and has been published in the documents of the Commission in Brussels, the graduates from that School can travel throughout the European Union and take up employment wherever they find it. The purpose of the Advisory Committee has been to provide Expert Opinion to the Commission as to whether or not programmes in architectural education comply with the Directive. The Advisory Body has consisted of three representatives from each Member State, one representative from Education, one representative from the Profession and one representative from the Competent Authority. Throughout the past twenty years, the Advisory Body has provided the Commission with numerous opinions and documents regarding the interpretation of the Directive, whether or not individual programmes in architectural education are compliant and information on many other subjects relating to the education and profession of architecture.

A change is now occurring. The Architects' Directive of 1985 is being replaced by the new Qualifications Directive. It is not exclusive to Architecture, it deals with many professions across the European Union. However, within that Directive, there are specific clauses which deal with architecture. In fact, some sections of the Architects' Directive, particular Article 3 and the eleven points identifying the content of programmes has been transferred directly into the new Qualifications Directive. The new Qualifications Directive became law on 20 October 2005 and following that date there is a two year period to allow the individual Member States to transpose this Directive into their individual legal systems. This means that on 20 October 2007, the Architects' Directive will cease to operate and the new Qualifications Directive will be the only relevant Directive in the European Union.

Once the new Qualifications Directive becomes fully active in October 2007, the Advisory Body to the Commission will not longer exist and the Expert Opinion that has been available

to date will not be automatically available to the Commission. It will remain however, open to the Commission to seek Expert Opinion should it deem necessary.

In the discussions here in Chania, and particularly among the Council of EAAE, it was decided that it was imperative that some sense of continuity be established across the European Union and that opportunities for Educators and Professions to meet, should be provided in order to understand the future of Architecture both educationally and professionally. During the past year or so, a Joint Working Party has been formed between the EAAE, representing the Educators of Europe, and the ACE the Architects' Council of Europe, representing the Professions to discuss issues of mutual interest and to attempt to understand completely the implications of the transition of the Architects' Directive to the Qualifications Directive.

This afternoon, you will be hearing from Adrian Joyce who represents the Architects' Council of Europe and Joao De-Abreu-Rocha who has been working with the Advisory Body for many years. In theory at least with the Educators present, a representative of the Commission present and Adrian Joyce representing the Profession we have the three parts of the jig-saw before us. However, there may still be a piece that is missing, and that is the way we understand how these three parts work together. Part of the exploration of this session in Chania today, is to further our understanding of the relationships between the Educators, the Professionals and the Competent Authorities in the future and to understand the implications of the change that is now occurring.

This change is surrounded by a multiplicity of questions. There are many parts of this transition that are not currently fully understood or explained. The purpose of this session is to inform you of the pieces that we know and are sure about, and to listen to questions and discussion and see what areas are unclear and need to be further developed. This process has been ongoing for some considerable time. It is critically important that the Heads of Schools of Architecture of the European Union and beyond debate this question and understand the implications for their Schools in the future. One of the key areas to be considered is the necessity to notify the Commission in Brussels about new programmes in architectural education, or changed programmes in architectural education, in order to ensure that these programmes are listed and published. It is through these publications that other Member States will turn to establish whether the graduates of any particular School are eligible to travel and practice architecture in another State.

I might take this opportunity to make a minor correction to the documents that have been issued to you. That is a reference to the Section that says 'The School's obligation to notify the EU of changes'. Strictly speaking it is not the Schools who notify the Commission, it is the permanent representative of the Government in Brussels of the Member State in which the School is located, that makes the notification. Therefore, it is important for the School to notify its Government and ask them to notify Brussels. This notification is particularly significant for Schools that are in the process of making changes as a result of the Bologna Declaration who are moving from five year Bachelor Degrees to a 3+2 Bachelors/Masters programme. It is critical that the title of the programme and the final award being conferred by the School is correctly listed and published in the documentation of the Commission. If the qualification of your School is not listed and published in Brussels, then the graduates of your School cannot leave your Member State and seek to practice Architecture elsewhere in the European Union.

Before handing over to Adrian Joyce, representing the Architects' Council of Europe, I will make a few final points regarding the key issues and key requirements for a School to be deemed to qualify with the Directives.

These are:

Compliance with the eleven points as defined in Article 3 of the Architects' Directive and Article 46 of the new Qualifications Directive. In both instances the eleven points are the same.

The duration of study, which is clearly defined as a minimum of four years. I noticed during this morning's session, that David Porter was asking whether or not the duration of study might be replaced by Credits or ECTS. There is no doubt that Schools of Architecture are increasingly moving to this form of notification in order to establish compatibility between each other. However, a difficulty lies in this area in that a duration of study of four years minimum is what is legally defined in the Directive document. This is the legal minimum, even though in most cases across the European Union, the duration of education is normally five years and in some Member States it can even be six. This can be somewhat confusing when one begins to examine programmes which consist of a 3+2 format arising from Bologna. It is important to understand that the first cycle of such programmes, the three year cycle can never be considered as compliant under either the Architects' Directive or the Qualifications Directive since it does not have a minimum duration of four years.

As I have already said the eleven points remain the same and unchanged. From time to time over the years, the content and wording of these eleven points have been debated, but as yet they remain in exactly the same wording when they were first introduced in 1985. These points are broad and not over prescriptive. Personally, I believe this is the strength of the eleven points. It has allowed diversity and variety to remain, among the Schools of Architecture. If we were to be more prescriptive and try to pin down the definitions in a more precise way, I believe there would be a major risk of casting architectural education in stone and preventing the natural development and evolution of educational programmes from occurring.

The basic content therefore remains the same irrespective of whether we are looking at the Architects' Directive or the new Qualifications Directive. It is the way that that content is interpreted and the methodology that would be used by the European Commission in the future recognition of Schools that is the most important issue for discussion here today.

Access to the Profession

Adrian Joyce, Brussels, BELGIUM (Senior Advisor to the ACE)

Text of Presentation by the ACE

Introduction

This document contains the text of the presentation as made by Adrian Joyce, Senior Adviser of the ACE, to the 9th Meeting of Heads of Schools of Architecture in Hania on the 3rd of September 2006. This document is addressed to Ann Elisabeth Toft for publication in the next News Sheet of the EAEE.

Good afternoon, Ladies and Gentleman,

It is a pleasure to be here with you this afternoon and to have been invited back to Hania to take part in your Annual Meeting. I find that the setting in Hania is very conducive to constructive debate and I look forward to a stimulating debate on the subject of the EU Recognition of Qualifications. This afternoon, I propose to present to you the Architects' Council of Europe (ACE) and more particularly its views and experience in relation to the recognition of Qualifications in the field of Architecture.

For those of you who do not know the ACE it is the professional representative organisation of the Architectural Profession at European level. Our Members are Representative and Regulatory Bodies from all EU countries plus Norway, Switzerland and the Candidate Countries of the EU. We therefore have 41 Member Organisations and, through them, we represent about 450,000 practicing architects.

The main objective of the ACE is to lobby the EU Institutions and to track legislation at EU level that will have an impact on the profession in years to come. As such the ACE is a forward looking Organisation that is constantly considering the future conditions within which the profession will work in the European Union.

The ACE organises its work in 3 Thematic Pillars which are:

- Access to the Profession
- Practice of the Profession and Trade in Architectural Services
- Architecture and Society

We currently have approximately 190 architects working in our various Work Groups and we have an Executive Board of eleven Members. The Secretariat is based in Brussels and there are four full time employees at the Secretariat.

As I am not here to speak about the ACE as an organisation I will not give a presentation of our main work items and strategic objectives at this time. However I would like to say that all of the Policy work of the ACE has one particular target and that is the creation of a quality built environment for the citizens of the EU. The ACE is convinced that the architectural profession, as a whole, has a significant role to play in improving the general living conditions for citizens

in the EU and that that improvement will lead to high efficiency, productivity and well being and thus to continued prosperity for the European citizen. In this work the ACE seeks to build closer co-operation with the Educators of the profession in order to ensure a coherent overall view is expressed to society by our profession.

Architects Directive

It could be said that the Architects Directive is the main “raison d’être” for the ACE. The ACE was founded as a time when the Architects Directive was being transposed to National law and it was formed by the coming together of two previously existing representative groups for the profession who had been involved in the detailed negotiations of the writing of the Architects Directive. As the Directive provided for the automatic recognition of qualifications it was realised that close co-operation between representative and regulatory bodies of the profession would be an advantage to the effective implementation of the Directive.

Despite the fact that the predecessor organisations of the ACE were involved in negotiating the terms of the Architects Directive, the ACE itself had no formal role in the implementation of the Directive. However through its member Organisations it has remained fully informed of developments relating to the recognition of qualifications and in particular, to the work of the Advisory Committee of the Architects Directive. Through these activities it has monitored developments and therefore was one of the first Organisations to be aware of the proposal to abolish the Directive and replace it with the Qualifications Directive.

Qualifications Directive

This Directive, as many of you know, sets out the procedures for Recognition of Qualifications in approximately 800 professions across the EU. It results from the putting together of the general approach to recognition of qualifications and the sectoral approach to recognition of qualifications. It will come into force on the 20th October 2007 which means that the transposition period for the requirements of this Directive is now. The ACE is aware that many Member States are already advanced in the preparation of their National laws and the ACE has several concerns specifically related to the architectural profession and how the provisions of the Architects Directive, which worked so well for so long, are to be transposed in the new regime.

Given its specific concerns on the transposition of the Qualifications Directive the ACE has established an Expert Work Group on the topic. This Work Group has raised a significant number of concerns about the detailed implementation of the Directive but there is one overriding concern on which intend to concentrate this afternoon. This concern relates to the procedures that will be followed under the Qualifications Directive when serious doubts are expressed about whether newly a notified qualification meets the requirements of the Directive or not. I will address this in detail now and return to the other concerns that the ACE has later.

In order to understand the concerns fully it is necessary to briefly inform you of the existing procedures under the Architects Directive. At the present time when a Member State notifies the Commission of a new or modified architectural qualification for listing the Member State is obliged to inform all other Member States of that notification. There is then a period of 3 months within which a Member State can raise doubts about whether the qualification meets

the criteria of the Directive. If doubts arise the Commission suspends publication of the notified qualification and formally seeks the opinion of the Advisory Committee of the Architects Directive. When that Committee gives its opinion the Commission then decides whether or not to list the notified qualification. The procedure has operated effectively over the 20 or so years that the Architects Directive has been in force and has been a major aid in maintaining a high quality of qualification within the profession at European level.

The ACE wishes to see such structured consultation procedures maintained in the new regime.

Under the Qualifications Directive these procedures will change significantly. When a new or modified qualification is notified under the Qualifications Directive, the Directive does not contain any procedures for Member States to raise serious doubts about whether it meets the criteria of the Directive. However, in a formal statement made by the Commission to the Council at the time of the adoption of the Directive, the Commission stated that it intends to put in place a procedure by which Member States may raise serious doubts following a notification. However that commitment did not contain any time limits on when serious doubts could be raised and so all listed notifications remain open to challenge for all time. Secondly there is no automatic suspension of the publication of a qualification if a Member State raises doubts. This means that the Commission might have published a qualification on which doubts are raised at a later date and which may at a further later date be withdrawn from the list of recognised qualifications. This leaves an open question as to the status of any person who may have benefitted it by the listing of the qualification and who may have moved to establish themselves in another country on the basis of that recognition. This would be a situation where a person with a qualification deemed not to meet the criteria of the Directive has been allowed to practice in a Member State of the EU. You can imagine that the ACE is concerned not only about the quality of such qualifications but also about the liabilities that would arise in the event that the work of certain person proved faulty.

The ACE has raised this particular concern with the European Commission in a letter to the Commissioner responsible. In his response, he has given a commitment to seek the assistance of the profession and the educational sector in any procedures to be devised in order to assess notified qualifications. This letter can be taken to be a first very fruitful result of the close co-operation that the ACE has established with the EAAE in the Joint Working Party of our two Organisations. I personally believe we can be very pleased with this development and we can use the content of this letter as a reference in the future should the new procedures not give the guarantee of quality that the profession seeks. I look forward to hearing what the Commission representative has to say this afternoon on this particular topic.

Returning to the other concerns that the ACE has, we are concerned about the role of the Regulatory Committee and the relationship to the Co-ordinators Group that we understand will be set up. At various times, and in correspondence, the Commission has referred also to an Expert Group and there is an open question as to whether the Expert Group is the same as the Co-ordinators Group or not. Furthermore it is known that both the Expert Group and the Co-ordinators Group are made up of the nominees of Member States and so the ACE is concerned to learn at what point in the procedures the profession and schools will be consulted.

Another concern relates to administrative co-operation between competent Authorities and what the role of the professional bodies will be in that co-operation. Here there is a link to

the provisions of the upcoming Directive on Services in the Internal Market that yet has to be clarified. Issues related to administrative co-operation include the pro forma registration of architects for temporary provision of services and whether or not practical experience can be required of applications for registration.

Further concerns relate to the reference years given for acquired rights and how competent Authorities administered recognition for persons benefiting from the acquired rights provisions. The maintenance of an up to date list of recognised qualifications is also one which gives some concern to the ACE and these linked to our main concern discussed further above.

Conclusion

As I hope you will see, there are a number of complex issues to be addressed in the transposition and implementation of the provisions of the Qualifications Directive. Wrapped up in those concerns is the quality of the qualifications that will be listed and hence the quality of professionals that will be in the market place providing architectural services to the public. The ACE firmly believes that it and the EAAE, as the Representative of the Schools of Architecture, has an important role to play and it intends to continue to work through the Joint Working party to maintain and develop better relations with the European Commission in the administration of the Qualifications Directive.

Procedure for the publication of new architectural qualifications under Directive 2005/36/EC

Joao De Abreu Rocha

RC Commission – DG Internal Market and Financial Services

Under this new system, architectural qualifications notified by a Member State will be published in Annex V.7.1 of Directive 2005/36/EC and will enjoy automatic and unconditional recognition throughout the EEA; if challenged, the Commission made a statement in the Council on first reading of the co-decision procedure, according to which if there are serious doubts raised by another Member State as to the conformity of the qualification in question with the relevant training requirements of that Directive the Commission will consider the possibility of withdrawing that qualification from the Annex in question after consulting the Committee on professional recognition foreseen by Directive 2005/36/EC (through an expert group). This is thus a major departure from the current system in which doubts by another MS within 3 months of the communication suspend publication until an opinion is given by the advisory Committee in education and training in architecture, which will no longer operate under the new system. It is easier to block suspension of the publication than to withdraw a published qualification.

DG MARKT will consult the Commission's Legal Service inter alia on the following questions:

- a) Can the publication be stayed in case of serious doubts within one/two months of the communication? Or is it compulsory to publish even in those cases and then consider the possibility of withdrawing the published diploma?

The Commission will make an appropriate publication of the qualification, which means it can and will carefully control whether the training requirements are met before publishing the qualification. This is in line with the written reply by Commissioner McCreevy of 26.7.2006 to the ACE's letter of 5.7.2006 on this subject.

- b) Will the Commission rely on Expert Opinion in order to withdraw a published qualification (and even to stay the publication of a notified one)?

Under the new Committee a Group of Experts will handle matters inter alia on architecture. The composition of that Group may change in function of the matters to be discussed and therefore it is up to each Member State to appoint persons competent in architecture to deal with architectural matters. This position is in line with Commissioner McCreevy's assurances that the Commission would seek expert advice (letter of 26.7.2006 mentioned above).

- c) Does the new Directive apply only to notifications made from 20.10.2007 or also to those made from 20.7.2007, because for those the period for doubts under the current directive (3 months) expires already under Directive 2005/36/EC?

In the latter case the Advisory Committee in Education and Training in Architecture will no longer be able to operate since Directive 85/384/EEC will no longer be applicable from 20.10.2007.

- d) In case of withdrawal of a published qualification, which would be the consequences for

those having undergone that course of studies? Will the Commission be liable for that decision (tort) and under which conditions? If in the meantime someone with that (withdrawn) qualification was automatically recognised in another Member State and built a house which has collapsed, who will bear responsibility?

It is pointed out that in any case an architect has the professional and legal duty to be insured against the risks inherent to his activity.

DG MARKT expects to have a position on these points by the end of 2006 and to discuss it afterwards with the JWP (Joint Working Party) between the AEEA and the ACE, the next meeting of the JWP being scheduled for early November 2006. The Commission is already in active and regular consultation for over a year with the educators and the professionals on a whole range of architectural issues.

In conclusion, the Commission takes the whole matter very seriously, as stated by the Commissioner in the letter of 26.7.2006 and it will carefully examine notified qualifications in architecture and seek expert advice where appropriate.

Discussion

Per Olaf Fjeld, Oslo, NORWAY

I would like to thank all three of you for your contributions. The topics are set for our discussion. First, I would like to briefly sum up what has been said. You may not all be familiar with this, so I would like to repeat some of the points that were made, and maybe make it easier for you to begin the discussion. Since 1985, there has been an Architects' Directive in effect that will soon cease to exist; it will be replaced, as of October 2007, by a new Qualifications Directive. Under the new directive, changes made to the programmes of studies must not be communicated by the schools directly to the commission, but must be taken first to the authorities in their country who will then notify their member in the EU. Apart from this, it is very clear that the Architects' Directive and the new Qualifications Directive are very similar. James mentioned two points: the legal minimum of four years of study, though the norm is five, and the 11 points, which were set out by the Architects' Directive and which remain the same in the new Qualification Directive. The most obvious change under the new Qualifications Directive is that expert groups and advisory groups will cease to exist.

This is how I understood the major points; now let us proceed with the discussion.

Lucio Barbera, Rome, ITALY

I am the Dean of one of the two faculties of "La Sapienza" in Rome. I would like to ask two little questions. The first question is whether the Guidelines, the document produced by James Horan, can be considered stable, since the 11 points and the division of the two main points will stay as they are even in the new Qualifications Directive. I suppose so, but I would like this to be confirmed.

Second, I would like to ask about one of the attachments of this document, where it is clearly defined that it is possible for the study courses to deviate from the 11 points and that this must happen in the last two years of the courses. My question is, does this assessment refer to disciplines or to matters that differ from the 11 points, that are not included in the 11 points?

Per Olaf Fjeld, Oslo, NORWAY

Could you repeat the second question please?

Lucio Barbera, Rome, ITALY

The second question is this: in one of the attachments it is clearly established that only 20% of the credits can be based on the 11 points. And I understand that to mean that the differences referred to in this attachment are large differences, subjects that are outside the 11 points, not within the 11 points. Is this true? Maybe James Horan could answer this.

Per Olaf Fjeld, Oslo, NORWAY

James, could you please respond to this question and also refer to the title of the guideline?

James Horan, Dublin, IRELAND

Lucio, and others who may have the same question, the way to respond to this question is as follows: first of all, the document is described as Guidelines, therefore it is the same as other opinions that have been formulated by the Advisory Committee, and so it is not necessarily, legally speaking, cast in stone – it is only an opinion. My opinion about the document I put forward is that it has been accepted and voted upon at the Advisory Committee Meeting in Brussels, in April, and was adopted. (The votes cast were 49 in favour and 1 vote against). With regard to the Appendix which talks about the 80% and the 20%, the reason that it is there is because legally, under the Directive, you may educate an architect in four years. If you teach him dentistry in year five he is still legally an architect. It is not necessarily the ideal and it is not what the schools of architecture generally subscribe to, because we in the schools of architecture generally agree that five years is what it requires to make an architect. But the legal position is that the minimum period for educating an architect, under both the Architects Directive and the new Qualifications Directive, is four years. What you do after that I think is up to you. Maybe Mr. de Abreu Rocha from the Commission would like to say something on this.

Joao de Abreu Rocha, Brussels, BELGIUM

I agree with you.

Lucio Barbera, Rome, ITALY

The differences that are mentioned in the document, that are accepted in the percentage of 20% regard subjects, items, disciplines that are not included in the 11 points. That is what I wanted to make clear.

James Horan, Dublin, IRELAND

That was my reference to dentistry. You can teach dentistry, you can teach wood-cutting, you can teach midwifery, it doesn't matter, as long as you have four years of architectural training.

Sven Felding, Copenhagen, DENMARK

My name is Sven Felding and I am the Rector of the Royal Danish Academy of Fine Arts, School of Architecture. Does the Committee mean that any new architectural education, any new school, has to be notified to the representative in the EU? And who are the Committee to judge whether it is up to the standards or not, up to the 11 points or not?

James Horan, Dublin, IRELAND

Regarding the first part of your question, it is the responsibility of the government of the member state of the EU to inform the Commission if they make a new school of architecture. If that information is not passed to the Commission, that school cannot be listed and recognised and its graduates will not be in a position to take up employment outside their own national boundaries. It is the responsibility of the school itself to make sure that the government of the member state in which the school is located does its work. The school does not have the option to make the application or the notification itself. The national government makes

the notification to the Commission in Brussels through the permanent representative of that country in Brussels.

Per Olaf Fjeld, Oslo, NORWAY

I see that there are many who wish to speak now.

Dimitris Kotsakis, Thessaloniki, GREECE

I do not want to ask questions, I want to make four points. The first point has already been explained, and that is that the old directive and the new directive are copies of one another. I mean, the new directive is just a copy of Article 3 and Article 4 of the 1985 Directive – let us be clear on that. So, in fact, we have one directive.

My second point is that to understand this one Directive we must go to two more documents. They are crucial. The first document is the Council of Europe 1980, where it defines the professions. You cannot understand the Directive of 1985 and the new Directive unless you understand the professions, and the professions are given as: architects, town planners, landscape designers and conservationists. Now, talking about dentistry, you could also talk about conservation, and I will come back to this point in a moment.

So to understand the Directive you have to look to the Council of Europe 1980 concerning the professions, but that is not enough. We must also go to the Advisory Committee in 1990, where it gives the educational qualifications for the definitions of the Directive. The crucial thing is that the 11 points mark the difference between three levels of knowledge: knowledge, understanding and skill or ability. The Advisory Committee defines knowledge as something given by lectures, and understanding and skill, as defined by the profession. Now in Greece, the competent authorities are the Universities and the Technical Chamber. If the University and the Technical Chamber agree that the definition of architecture is all these things it will not accept anybody coming from Great Britain, for example, who declares himself an architect after having studied four years or three years. He will not be permitted to be an architect in Greece, regardless of whether he is British or Greek. This means that it is up to us to define architecture, to define the standard of architecture and to enforce this standard. The European Union can say nothing about that. The European Union only advises us to lower the standard. We will not lower the standard.

Per Olaf Fjeld, Oslo, NORWAY

Thank you very much for your comment. Are there any other comments?

James Horan, Dublin, IRELAND

I think that Dimitri is correct in what he is saying, but it is important to understand that the Directive is not access to the profession of architecture; it is the mutual recognition of qualifications. And every member state may decide to have a series of additional examinations before they allow somebody from another member state to actually practise. This is a matter pertaining to knowledge of local conditions, and the Directive does not deal with this at all. The Directive is about providing the possibility for mobility and mutual recognition of qualifications.

But, for example, in a country like Greece, or indeed in a country like Italy, where there is a huge conservation element in the day-to-day architecture, because of the artifacts with which people work, it is completely reasonable that access to the profession is governed by the authorities in those countries, and one way of doing that is having additional recognitions before allowing somebody to practice there. All the Directive says is that this person has a basic architectural education, but you can say that to practice in my country you must do something more. So, Dimitri, you are absolutely correct.

Per Olaf Fjeld, Oslo, NORWAY

I think that it is very important not to mix these two discussions. We need to be careful because, if you say that each country can control the way in which one can become a professional architect in the midst of the other discussion, the issue becomes really complicated.

James Horan, Dublin, IRELAND

My apologies. I also wanted to make a further response to Sven Felding's comment about who makes the decision. This is the problem, and I think that this is what this meeting is fundamentally about. Under the Architects' Directive there was an Advisory Committee; it may not have had the legal ability to make the decision, but it had the ability to offer an opinion, and in most of the cases throughout its working life the Commission accepted that opinion. We are now facing the very strong possibility that with the abolition of the Advisory Committee, the decision about the quality of architectural education will be made by people who know nothing about architecture. This is our worry and our concern, and it is at the heart of the current discussion undertaken by the Joint Working Party of the ACE and the EAAE, in an effort to establish how the transposition and the interpretation of the new Directive will be implemented.

Adrian Joyce, Brussels, BELGIUM

I would also like to reply to Sven's question regarding what happens when a new school of architecture is established. In the first instance, it is for the government in that country to decide whether it believes that the qualification offered by the school meets the requirements of the Directive, because, as you can understand, a member state will not wish to notify a qualification that is going to fail to achieve recognition. So the first examination will be carried out nationally before the notification is sent to the Commission.

Joao de Abreu Rocha, Brussels, BELGIUM

I just wanted to pick up on what James said. In the case of a challenge it is mandatory to ask the opinion of the Advisory Committee, but ultimately the final decision is taken by the Commission, who may or may not follow the advice or the opinion of the Advisory Committee. In 90% of the cases it does, but there have been some cases in which it did not, so I wanted to point out that, as James said, it is not a binding opinion.

Under the new system, as I previously explained, the Commission has more leeway, but at the same time we have more responsibility in making a decision, either to publish a communication or to withdraw a published communication, so ultimately the Commission is where, the Americans would say: "the buck stops here".

Finally, on the question of access to the profession under the new Directive, which in fact is called the Directive for the Recognition of Professional Qualification, in some countries professional qualification may mean only academic qualification, while in other countries it might mean academic qualification plus an apprenticeship or training period, plus possibly a state or professional examination. The Directive clearly states the principle that the diplomas that are listed, among which are the old ones, on which there cannot be any challenge or disagreement, but there are also the new diplomas, which each of the other states have a chance to challenge within three months and see what the final result is. So if a diploma is listed, it has a right to be automatically and unconditionally recognised and therefore to grant access to the profession on the same footing as that of the host member state. So this is a point that it is important to make. Therefore, the decision to recognise should also be a decision of licensing and registering in the Chamber, in cases where registration is compulsory for practicing the profession.

Leen van Duin, Delft, NETHERLANDS

I have a question about the remark on new schools. The answer was that new programmes or new titles have to be notified to the government and the Committee, which means that all of us who have introduced BAs and MAs have to go via the government to the Committee. Is that correct?

Per Olaf Fjeld, Oslo, NORWAY

Yes, that is correct.

Adrian Joyce, Brussels, BELGIUM

I think that it might be useful to use an example to illustrate what Mr. de Abreu Rocha said a moment ago about the lists of diplomas. Take the case of the Netherlands, where, and I hope I am correct here, with a five-year academic qualification you can register and practice immediately as an architect with no practical training required. In Poland, they have listed not only the five years of academic training but also the examination of the Chamber of Architects, which requires two years practical experience followed by an exam. These are two very different situations. However, what Mr. De Abreu Rocha has pointed out is that an architect from the Netherlands moving to practice in Poland is legally and automatically equivalent to a Polish architect who has completed the five plus two years. In other words, he can legally be registered in the Chamber of Architects in Poland without the need for practical experience. So, in fact, the Polish government is discriminating against its own citizens.

Joao de Abreu Rocha, Brussels, BELGIUM

This is a case of what is called reverse discrimination, but it is a problem of national constitutional law and not of EU law. Now, just picking up on another point James mentioned. As I said earlier, the Commission has undertaken, in the case of serious doubts, to seek advice by an expert group. The members of this group will be nominated by the member state, but we expect that in architectural matters they will nominate experts in architectural matters, so I think the danger of dentists deciding architectural matters is a bit remote. Thank you.

Per Olaf Fjeld, Oslo, NORWAY

I think that it is important to have more comments from the floor before we go back to the panel.

Richard Foque, Antwerp, BELGIUM

Thank you, chairman. Some of the questions that I was going to ask have already been answered, but I am afraid that the further this discussion progresses the more confused I get and the less clarified things become. It is not the case that a new Directive is coming and that the world stands still while everything changes. Leen pointed out that in fact almost all the schools present here, well respected schools, have applied to the Directive and have been recognised, so to me it seems a bit Kafka-like that we all have to apply again, especially since all the schools, as far as I know, are already accredited in our own countries. Many of us have changed our curriculum to conform to the Bologna Declaration and have been recognised in our own countries. So what is the legal situation on this? That is absolutely unclear.

Another thing that I think it is very important for us to define, is what constitutes a change of programme; if tomorrow I ask a visiting professor to give a course in my school, is that considered a change of programme?

Per Olaf Fjeld, Oslo, NORWAY

Yes, you are right, we must be really clear about this.

James Horan, Dublin, IRELAND

It is not the change of programme, but the change of title, the qualification that is registered, that is recognised. So if you have a programme that ends up as a qualification, for instance, a BA in architecture after five years of study, that is a different qualification from someone who has a 3+2 BA and MA. It is the title and the mutual recognition of qualification. If the title or the grade of a qualification changes, Brussels should be notified so that the qualification on the list corresponds with that on the parchment students will receive when they graduate, so that if somebody wants to check the MA in architecture from the school of Antwerp, he can find it on the list. That is all it is. You do not have to notify Brussels if you want to add an extra hour of building construction to the programme or if you want to bring in a visiting professor from somewhere, these are issues within a school's right to decide how its educational programme is conducted.

Per Olaf Fjeld, Oslo, NORWAY

I think that is clear now.

Maire Henry, Waterford, IRELAND

Good afternoon. I am Maire Henry, and I am the head of a new programme of architecture in Waterford, in Ireland. First of all, I would like to thank you for the comprehensive overview of the European scene. I hope my question does not appear a little naïve. Why does the EU Commission not seize this opportunity to insist that architectural education should have a minimum of five years duration? I ask this for three reasons. Firstly, this morning's presentation made it obvious that 90% of courses are five years long. Secondly, we are in the process of introducing

the Bologna profile, which is a 3+2 model, and thirdly, it is very difficult for schools that are publicly funded as mine is to demand funding for a five-year course, if the EU Directive is now suggesting that the minimum is four years.

Joao de Abreu Rocha, Brussels, BELGIUM

Thank you. Firstly, as I said, in 1985, when the Directive was adopted by the EU member states, it was by a unanimous decision, and that was where the minimum of four years was decided. Secondly, the new Directive is mainly a consolidation of what already existed beforehand. There was no will on behalf of the member states to bind themselves to more than a minimum of four years. The Commission may propose but the decision reverts to the Council and the Parliament, and even some years ago, when this was again discussed in the European Parliament, there was no majority for raising the minimum legally to five years. So this is the political reality that we have to acknowledge.

Per Olaf Fjeld, Oslo, NORWAY

I think Adrian also had a comment related to that.

Adrian Joyce, Brussels, BELGIUM

Just for your information, the member organizations of the Architects' Council of Europe asked the Commission to move the minimum to five years, because all of the member organizations of ACE, including our German colleagues, who had been the ones with four years (Fachhochschüler), have adopted a professional organization that came to a unanimous resolution calling for five years of study. But the problem is not at the professional level; it is at the national government level, where there is no demand for a higher minimum because the governments want jobs and short training periods that will get people into the market to work for money. That is the reality.

James Horan, Dublin, IRELAND

I think, Maire, that you are absolutely right to be concerned about this, but this has been the case all along. There has been no change in this. This is what we were saddled with in 1985 and it was a political decision at the time. However, at the risk of creating a confusion I will say, that access to the profession is within the control of member states and their professional organizations, and if the profession decides who can practise architecture in a member state they can also decide that it requires five years education to do so, even though there is a legal position in Europe where you could theoretically be an architect after four. And that is a matter for each professional body to work out for itself in its own member state and it is part of the discussion that the Joint Working Group of the EAAE and the ACE have on their agenda on a regular and ongoing basis.

David Petherick, London, UNITED KINGDOM

Thank you, chairman. We have heard a lot of talk and many concerns about the adequacy or otherwise of the minimum conditions for training, and I have a question about a statement made in the transposition that today has been referred to, in relation to Article 14, which is for routes into the profession for people who have not followed the conventional training courses.

It is a statement made by the Commission pointing out that it is possible to be an architect without satisfying even the minimum conditions of training set out in the Directive. We have heard a little bit about acquired rights, existing case laws and member states that do not have legislation to protect the title or function. Do these three situations cover the question of who might be an architect without having satisfied the minimum conditions? And if there are other people who could be architects without having satisfied the minimum conditions, by what process do they become architects?

Joao de Abreu Rocha, Brussels, BELGIUM

As I have explained, in the field of architecture, the old and new directives follow the same line: organised mutual recognition of professional qualification. They do not interfere with the right of each state to regulate or not to regulate architecture, or to what extent they may do so. So it is theoretically possible that a state could offer a training course in architecture of three years that would be legal within that state and that would be an eligible for recognition outside that state. However, such a qualification would not be automatically recognised by other states. This means that other states would not be obliged to automatically recognise such a qualification and they would be entitled to control the qualifications of a person with such a degree, and in cases where there are essential differences with its own requirements it could demand something similar to what is called a general season???, although with less precise rules, mainly in the deadlines. This is one possibility.

Another possibility, to use an example that Adrian Joyce mentioned, is that in certain countries the qualification covers academic training plus taking an examination for registration. We are now seeing the case, mainly in Ireland and the UK, of Polish, Slovak and Lithuanian professionals who have completed the academic qualification, but have not completed the prerequisites to register in the Chamber that their own countries put forward as part of the qualification. Such cases fall under Article 14 as well, because although these are not cases of people having completed less than five years of academic training, their qualification is not covered by the Directive because they have not completed the requirements set out by their own countries. So it is theoretically possible, in the sense that it is not illegal, that a member state could offer training for three years and give people the full right to practise with such qualifications in its own territory. That would not be illegal under the Directive. And this is the major difference with sectoral professions, where, for instance in the medical field, the minimum years of training are compulsory even within a state.

Adrian Joyce, Brussels, BELGIUM

Yes. The ACE raised the same concerns with the Commission and it is good to have this clarification that the member states have the right to recognise architects with less qualification than the Directive's minimum, but only in their jurisdiction.

David Porter, Glasgow, UNITED KINGDOM

Adrian, earlier you posed the question of what would happen if a student studied in one country and got a recognised qualification, and then built a house in another country that subsequently collapsed, and in such a case who would be responsible. There are two points I want to make in this regard. One is that, earlier on, we were talking about restricted definitions of architecture, but it seems to me that a lot of the trouble is that the seemingly core competence of an architect

is the ability to design a house on his/her own, which would exclude Zaha Hadid and many others, and I think that there is a difficulty about that.

The other point I want to raise, which perhaps is even more important, is that I operate in a country where you have to study for five years and then you have to take a professional apprenticeship, and it is true that someone could come with four years of study and call himself an architect and practise and build. My question is would he/she get insured to build? Because we talked about this as if it is all about professional regulation and about government, but in reality the insurance companies are huge players in this, and in the end the question of who would be responsible if the building collapsed is actually an aspect of the insurance and the legislation related to that. And I think that the answer to this is something we will have to wait and see, but in the meantime, I would like to know, if someone comes into a country whose qualifications are less than the country would normally expect, will they be insured?

Adrian Joyce, Brussels, BELGIUM

You raise a very thorny issue of course, and I do not think that there is an immediate answer because the insurance industry is a law unto itself, or at least that is what we have found in our dealings with it. Here as well, you are crossing the line between the Qualifications Directive and the new Directive on Services in the Internal Market, which is about providing services, not about recognition of qualifications. It seems to me that insurance companies would tend to look to the competent authority in the state and say that if the competent authority has stamped an approval on a person's qualifications then for insurance purposes that person is as a national of that country, and with what we have said about reverse discrimination, you can see that it is possible that a person with a lesser duration of training for qualification could be recognised equivalent to someone with a longer period. So it is a complex issue but I think it would come back to whether or not a competent authority had recognised the qualification.

But I hope that these points that we are making have highlighted in your minds, as they have done in mine, the real importance for member states to decide what is the type of qualification that they notify to the Commission. Because it is in that notification that the benchmark of what education leads to sits. The Qualifications Directive is the benchmark because it deals with mobility and it deals with equivalence. In my own personal opinion, and I am speaking for myself and not necessarily as a representative of the ACE, the Qualifications Directive should only be about academic qualifications. I believe that there is a need in our profession for a second level of mutual agreement, which would be about access to the profession. And the way member states have been notifying qualifications under the Architects' Directive and the new Qualifications Directive is compounding this problem, because Poland, the Czech Republic, Italy, to a certain extent, and I think Slovenia and Latvia too, have all included membership to a professional chamber or a state exam as being required by the Directive. And they are only submitting their citizens to the reverse discrimination we spoke of, whereas someone from the Netherlands, as the classic example, with five years academic training can go to any one of those countries and immediately be registered to the chamber or have access to practise the profession. So these are very essential and crucial questions that you, as heads of schools of architecture, or as representatives of professional or regulative bodies, should be raising with the member states' competent authorities to try to unravel this. And there have been many more missed opportunities.

James Horan, Dublin, IRELAND

David, in that context, just to reiterate and to expand a little bit on what Adrian has said, I would like to say that the difference between the academic title notified to the Commission in the case of most member states and the reality of what happens in individual member states can be highlighted by the current position in Ireland, where at the moment even the post-man can call himself an architect. There is no legislation that prevents anyone from saying that he is an architect and therefore, in Ireland, someone can just open a practice and declare that they are going to design buildings. However, since we spoke about the insurance companies, I am certain that this person will not be insured. Also, more specifically, when properties are bought and sold nowadays the lawyers who are making the legal transaction of the property look for a signature of an architect who is a member of the Royal Institute of the Architects of Ireland, otherwise they do not think that the property can be transferred; so what I am saying is that very often by default and by the action of another profession this is being controlled.

Ideally we should be in a position where there would be two levels, as Adrian has identified: the Directive, that deals with qualifications and mutual recognition to allow students and graduates to transfer, and the professional bodies in the EU member states, that decide who can practise in their individual jurisdictions. Ultimately, there should be a mutual recognition of professional standards among the professional bodies and, if necessary, a minor local examination to qualify someone to deal with the peculiarities of the place where they are coming to work as opposed to the place from where they have come. That is our hope.

Per Olaf Fjeld, Oslo, NORWAY

Mr. de Abreu Rocha, would you like to make a comment?

Joao de Abreu Rocha, Brussels, BELGIUM

Yes, I would like to make a comment about the issue of insurance. The host state is entitled to require that the applicant has insurance against financial risks, an insurance which is compulsory in the whole host member state. On the other hand, not being insured by a national company has another twist, that it is not theoretically impossible that you may get, either in another country or in your own country, an insurance that may also be valid in the host state and which will cover the same risks. I put this forward just as a reflection, as food for thought. Thank you.

Christina Kuhn, Vienna, AUSTRIA

I have two questions. The first is that I still see a strong contradiction between Adrian's example of a Dutch architect practising in Poland and the argument of the gentleman from Greece, that it is possible to keep out architects from the Greek market based on the argument that they do not have enough knowledge of conservation, for example. I think this needs some clarification.

My second question regards another matter. In our university in Austria we have a BA and MA system, but the degree that we give is still the same as before. The MA title is *diplôme ingénieur*, just as it was before. So we have three different interpretations now regarding what needs notification: new schools, new programmes or new titles. If it is titles, we have a BA title now and an MA title, which is called *diplôme ingénieur* as before. So if you look at this, in Vienna, you still find the *diplôme ingénieur*, but this is now a two-year degree, not a five-year degree

as before. So what do you recommend us to do in this case, should we notify Brussels of both titles or of only one? What shall we do?

Leen van Duin, Delft, NETHERLANDS

I would like to clarify something about the situation in Holland, because I have heard various remarks about the situation there. In Holland, the academic title is protected, but anyone, even a dentist can make a building. Only the title is protected, the profession is not. So if you are a dentist and you call yourself an architect you receive a fine for 20,000 euros or something like that, but as a dentist, and as long as you do not call yourself an architect, you can make a building.

James Horan, Dublin, IRELAND

That is absolutely correct. We continuously come back to the confusion between access to the profession and the Qualifications Directive. But to go to my colleague from Vienna, your first question was about the difference between what Dimitri Kotsakis said at one stage and what Leen van Duin said at another. Ultimately, it depends on the member state. The situation is different in each one. In some member states, like Holland and Ireland, anyone can practise architecture. In other member states they may not, unless they are registered in that member state. But if there is no such registration in the member state then that control does not exist, and in many cases we rely, as I said to David Porter, on things like insurance and lawyers, to try to keep this situation under control until such time as the legislation for registration has been introduced.

Christian Kuhn, Vienna, AUSTRIA

So do such countries not recognise someone's qualification?

James Horan, Dublin, IRELAND

No. Their qualification is recognised, but the recognition of the qualification does not necessarily allow them to practise, that is a local matter. But the point that both Adrian and Joao have made is that it depends on how the member states decide to notify Brussels. If the member state says that the qualification for architecture in their country is the five-year diploma in architecture from the following schools, that is simple enough. But in the case of Poland, the document that was submitted notified Brussels of five years of architectural education plus the years for the profession, so that is what is written in the list. That means that Polish graduates who have not done three years professional work in Poland cannot have their title recognised in another country, and we have seen cases like this in Ireland and it is a problem. So it is really important that the wording of the title that is communicated to Brussels, accurately reflects the academic qualification, and the academic qualification only. It is a very big difficulty, which has not yet been grasped by many countries, and there are numerous anomalies across the European Union now that create unfair situations. For example, somebody from Poland cannot practise architecture in Poland, or cannot have their title recognised in Poland, until they have fulfilled the three years for professional qualification, but if a Dutch architect, or an Irish architect, with just his academic qualifications arrives in Poland, his title must be recognised

because it is written in the Directive. However, whether he can practise architecture or not, is another discussion.

Joao de Abreu Rocha, Brussels, BELGIUM

The current Directive on recognition of qualification in architecture serves to facilitate the effective freedom of establishment, freedom to provide services or freedom to work as an employee, so it is clearly linked to professional recognition. And that the aim is professional qualification is even clearer in the new Directive. So, in fact, the decision to recognise also implies a decision to allow access to the profession and to allow students from other member states to practise in the host state on equal footing with local nationals. But this means that member states that have stricter requirements may end up discriminating against their own nationals in favour of nationals from other member states. And I will give an actual example from Austria and the Netherlands: some years ago we were informed that many Austrians, in order to circumvent the Austrian state exam, went to the Netherlands, stayed there for six months or less, were registered in the Netherlands and then returned to Austria with their Dutch title. And the Austrians had to recognise them automatically without being able to complain that they were circumventing the legislation, while the Dutch, on the other hand, more or less complained of being “invaded”. It was a clear case of circumventing the existing legislation without the authorities being able to do anything about it, but as I said earlier, reverse discrimination may be a case of national law, but it is not the problem of EU law.

To sum up, states that have higher or stricter requirements may end up discriminating against their own citizens because someone with lower requirements, that are however recognised by the Directive, is entitled to practise by the decision of automatic recognition.

Adrian Joyce, Brussels, BELGIUM

I want to answer Christian's question about the case, in which you have a three-year BA and a two-year MA, which title you should notify Brussels of. It is my opinion that it should be the MA title only. In fact, the document referred to earlier this afternoon, the Guidelines document prepared by the Advisory Committee, addresses that type of question. The crucial point is that there must be an established link between the two-year MA degree and the preceding three-year BA, because technically speaking a two-year course cannot be listed because it does not cover the four-year minimum. Maybe Joao is more qualified to elaborate on this, but I think that it should be the title that terminates your studies in architecture that is notified.

Jordan Radev, Sofia, BULGARIA

I am Jordan Radev from Sofia, Bulgaria. As this meeting is so important to us I would like to take this opportunity to thank the organisers, the panels and the rest of you on the floor, for your questions and answers, because most of my questions have already been discussed and answered. However, there are still some things that I would like to ask. The first thing is, that from all the discussion we have had here I have understood that the relationship between education and the chamber of architects of different European countries is not a matter of our discussion on qualification, because qualification, as has been said, is just a benchmark for the leading of the practice, since it is the chamber of architects in some countries that decide on what other requirements are needed to practise the profession. But in this case, what is going to happen when for example, in our schools, the legislation for the chamber of architects says

that everybody who has a MA degree in architecture, no matter whether they come from abroad or whether they have been educated in Bulgaria, could be allowed full rights to practice architecture? And if somebody from abroad comes with five years of study and the title of a first degree BA in architecture, what happens then? Because as far as I understood, he has the right qualification and so he should be allowed into the profession, but the chamber of architects will stop it. But the chamber of architects is a part of a, let us say, membership of the European Community, so the European Commission will force the chamber of architects to equalise the law between the different chambers of architects, and what will happen then? I am afraid that I do not have enough information. Does this process, the agreement between the chambers of architects of member states, go with the process of education?

Moving to my second question. If I understood correctly, as long as a school conforms with the obligatory courses according to the 11 points stated by the Commission or the Advisory Committee, the member state's government must notify the European Union that a particular school is accredited and that is enough, the European Commission will not validate the courses, just the title. The reason that I am asking for confirmation on this is because the European Commission has certain requirements and the different states have other requirements and these will be equalised in the future, but what happens in the case that, for example, the course of one member state is recognised by a better authority than the government, if let us say that the course is validated by the RIBA or by somebody who is authorised to examine the quality? For example in Germany now there is a very good programme from the Bonn University on auditing the quality of education.

So my question is, if we introduce our MA courses in architecture and the school is validated and has the permission from the European Commission to be recognised in a member state, and somebody like a mathematician, with a BA in mathematics or a BA in engineering, entered one of the two-year courses and got an MA degree, is this person then qualified as an architect?

Per Olaf Fjeld, Oslo, NORWAY

I think your questions will need a lot of discussion and we have very little time left. I think that we may have to discuss them at another time.

Adrian Joyce, Brussels, BELGIUM

I know that we do not have much time, but I would like to give a brief answer, if I may. I think that you are giving the Commission more power than they have, because a Directive of the European Union is adopted by the Council, which is made up of the member states and of the European Parliament. The Commission, in fact, and I hope I am accurate in this, are the administrators of the procedures adopted by the member states. So in your question you have asked whether the Commission will force the chambers to go down the path of the mutual recognition agreement, and I think that the answer is that they will not, because they do not have the power to do so. What could happen is that the council of ministers might decide that the architects are going all over the place and that they should be better organised, and so they might ask the Commission to prepare a law that will make the architects become better organised. But, even in this case, it is the member states that will ask for it, not the Commission. I just wanted to clarify that.

The second thing I wanted to say is about the notification, and it comes back to an answer I gave earlier. We talked about national accreditation or the validation of courses; I do not think that any member state will agree to notify a qualification they think has a chance of not being listed. But from the Commission's point of view, as administrator of the Directive, they do not care if a course has been nationally accredited or validated, they will only care whether the course meets the requirements of the Directive. So, again, it becomes a national question.

Finally, with your last point, you raised a real potential horror: that countries might decide that there is a kind of foundation course of three years that leads to a general BA in construction sciences and that from there someone could do a two-year MA and become an architect. Well, James Horan's and the Advisory Committee's paper clearly demonstrated that this is not possible. This would not be allowed under the Qualifications Directive, because it requires four years of full-time study entirely dedicated to the 11 points, so clearly a person, who has done three years of engineering and structural design and only two years dedicated to architecture, does not meet that criteria, so it is not a possible route to the profession.

Joao de Abreu Rocha, Brussels, BELGIUM

I would also like to say something about the case of Bulgaria. For the moment, the courses you are talking about are covered under the acquired rights clause, so the question of notifying new titles only arises for courses starting in 2010-11. So at least, for the time being, you have no need to worry about those problems.

Peter Garbrijelčić, Ljubljana, SLOVENIA

I have a very short and practical question. We are going to start the new recognised programme next year, when will our MA's be recognised? What is the most optimistic scenario? In 2008? Because we have to adapt the old programme to the new one and the students in the diploma stage will have to pass six or seven extra exams and at the end they should have the same curricula like those in a newer programme. Is it correct to think in that direction?

Joao de Abreu Rocha, Brussels, BELGIUM

Strictly speaking, from a legal point of view, the old programmes are covered by the acquired rights clauses, so they are already covered for good and you do not necessarily need to update them. Of course, you may do so if you want to, or you might offer to do so on a voluntary basis because of an internal problem, but under the EU law, if they are covered by the acquired rights clauses, they are covered forever. For the new ones, or the so-called new one, those starting in 2006-2007 are still covered by the acquired rights, but if they start in the period 2007-2008 they will have to be notified to the Commission and the other member states.

Per Olaf Fjeld, Oslo, NORWAY

I think we will have to start summing up our discussion.

Adrian, would you like to make some closing remarks?

Adrian Joyce, Brussels, BELGIUM

Thank you, Mr. Chairman, for the opportunity, but I am happy that we have covered the key and critical issues and I think that maybe smaller discussion groups on particular cases might be fruitful during the course of the evening. Thank you.

Per Olaf Fjeld, Oslo, NORWAY

Thank you very much.

Joao de Abreu Rocha, Brussels, BELGIUM

I would just like to say that, under the new Directive, the Commission has undertaken to carefully examine the qualifications notified for publication and it will also, in case of serious doubts, refer matters to the relative expert group for appropriate advice. This is a commitment on the part of the Commission that I mention to allay justified fears. Thank you.

Per Olaf Fjeld, Oslo, NORWAY

Thank you. In closing I would like James Horan to attempt to interpret the discussion that we have had and the future possible ways in which we can proceed.

James Horan, Dublin, IRELAND

Thank you, Per Olaf, but that is a tall order. It is a bit like the people who can recite the entire works of Shakespeare in nine minutes. As we know from this afternoon's discussion, this is a very complicated area and it is an area where quite a number of different types of legislation and regulation overlap, so it is quite difficult to get a full and clear image of the individual aspects that make up this problem. I think as a summing up position, from the point of view of the educator and from the point of view of the EAAE and from the point of view of us here who are principally concerned with running schools of architecture, there are a few things that I may just quickly highlight as things to remember.

We know there will be problems about the new Directive and about how it is going to be interpreted and administered, and we have already heard from the Commission that there is a willingness to explore the future in this area, and we of the joint working party between the profession and the educators feel positive about this and look for positive ways forward, but we do not know them all yet. Hopefully in the next twelve months, and before October 2007, we will have reached some type of protocol and working methodology that can be applied to that situation. More importantly, when a school of architecture changes the title of its qualification, not the content of its programme, (if it has already been recongised, the content has been established in the context of the 11 points), it is important that the school makes sure that the national authority notifies Brussels of the change, so that the graduation parchment of its graduates corresponds with the Directive and the listing, otherwise its students will be disadvantaged if they try to travel around Europe.

The next point is that we should clearly differentiate between the Directive and access to the Profession. The Qualifications Directive is about the mutual recognition of the title of a qualification and in my opinion, and I agree with Adrian Joyce, that title should be an academic title, and member states that have confused that with the professional title should if possible

rectify that situation. However, I do not know legally how that is done and I do not intend to even explore it.

Lastly, it is important for the new member states that currently have their programmes recognised under the acquired rights clause, to realise that that is a limited period and that the graduates coming into their programmes in September 2007 will not have the benefit of the acquired rights clause, and therefore they must notify Brussels of their programmes.

There are many more individual things we could talk about, but tomorrow we have another session dealing with the relationship between the educators and the professionals and I have no doubt that it will offer further opportunities to explore aspects of this discussion.

Per Olaf Fjeld, Oslo, NORWAY

Thank you, James. Thank you, Adrian. Thank you, Joao. And thank you all for your participation. We might come back to some of these questions in other sessions, as James said, but in any case thank you for a very fruitful session.

Session 4

Relationships with the Profession(s)

- The Profession(s) involvement in defining graduates competences
 - The relationship between education and the profession(s)

Chair: **James Horan**, Dublin, Ireland

Round table Discussion Panel:

Karl Otto Ellefsen, Oslo, Norway

Peter Gabrijelcic, Ljubljana, Slovenia

Caroline Gould, London, UK

Jeremy Gould, Plymouth, UK

Adrian Joyce, Brussels, Belgium

Francis Nordemann, Paris, France

John O'Reilly, Dublin, Ireland

Constantin Spiridonidis, Thessaloniki, Greece

Per Olaf Fjeld, Oslo, NORWAY

We will have three short lectures this afternoon; they are all centred on different aspects of the same topic, which is EU Recognition. This is a topic that I am sure we are all eager to know more about and I hope that the panel can offer us this opportunity. There will be no discussion between the three lectures; we will hear them all and discuss them afterwards.

The first lecture is by James Horan, former president of the EAAE, now a member of the Council. The second is by Adrian Joyce, senior councilor to the Architects' Council of Europe. Let me point out that the EAAE and the ACE have had a lot of communication throughout the year, which has been fruitful for both sides, and I would like to take this opportunity to thank Adrian Joyce for making this possible and for the results that have come from this joint effort. Our third lecture is by Joao de Abreu Rocha, the Secretary of the Advisory Committee of the Architects Directive, and in this sense, he represents the perspective of the European Commission, as James and Adrian respectively, could be seen to represent the educators and the profession.

So let us begin. Please, James, the floor is yours.

James Horan, Dublin, IRELAND

You are all very welcome to this morning's discussion, which deals with issues around the relationship between those involved in academia and the education of architectural graduates and those involved in the practice of architecture. There has always been, I suppose, a tension between the educator and the practitioner. Or maybe not always; if one goes back far enough in history, before the advent of the universities the practice of architecture was really an apprenticeship, where somebody worked with a master architect until such a time as they understood all of the aspects of that profession needed to become a master architect themselves. However, historically, as architecture became an academic discipline in its own right, a certain subdivision or separation of activities occurred both in practice and in the minds of those involved in architecture. The academics took a view on one extreme, that was that the study of architecture was actually an academic subject for its own sake, and on the other end of the spectrum, the practitioners took the view that the practice of architecture was the purpose for which they had studied in the first place and that the only function a university had was to provide people who were suitable for practice. This, I suppose, could be referred to as a type of cynical development. I am reminded of the fact that in some cases academics have regarded the commercial practising architect as someone who provides a draft of plans into the client's hands in exchange for a draft of finance into the architect's bank-account. And on the other side, the professor of architecture at the university was looked upon as someone who talks while someone else sleeps. In fact the lecture in the architectural school was regarded as an event where the notes of the professor were transferred to the notes of the student without passing through the minds of either.

However, this division has been there historically, particularly in the last century, where the educational process was deemed to be incomplete on leaving university and some practical experience had to follow to allow the master architect to work. There has been a paradigm shift in thinking in the minds of both the professionals and the educators in recent years. This stems probably from the notion that education is a life-long process, which does not end with university. It continues, and therefore some of you will take with you that architectural education is a 50-year process for which there is joint responsibility by educators and professionals alike. If that notion is subscribed to a very fruitful relationship can develop between those who teach architecture and those who practise it.

In the middle of this we also have the other hybrid: the person who does both. We see this as an opportunity to develop the discussion from the two extremes and the middle position. Because of the fact that the performance of all professionals is scrutinised extremely closely and that issues to do with insurance and competence to carry out the profession correctly have become parallel in people's thinking, the notion of competences has entered into popular thinking. This means that in order to protect the public and to protect the environment it is important that we have an understanding of the type of competences that are necessary to allow the person to function in the various spheres of architecture and allied professions. Consequently a discussion has begun where the professions are giving indicators to the teachers about the type of competences that are expected when someone practises architecture. This does not mean of course that it is the teacher's responsibility solely to provide this product; it is a joint effort, and the educational process continues long after the graduate has left the school of architecture.

This morning's discussion will begin with a presentation by Dinos of a survey, the initial gathering of information to give us some idea of what the playing field in this area looks like and what the requirements might be for all of us, professionals and teachers alike, going into the future.

Constantin Spiridonidis, Thessaloniki, GREECE

Please see presentation on pp 56-78.

James Horan, Dublin, IRELAND

Thank you kindly, Dinos. You said that this will probably provoke some discussion. It would be terribly easy to become very defensive, either from the point of view of one's age or one's nationality, but I hope that we will take this in the spirit in which it has been carried out, and I think that it is a very useful exercise to help us try to get an understanding of the broader picture of our responsibilities, be it as an educator or as a practitioner. I was going to suggest that I invite the members of the panel to come and join us here now and to ask each of them to make a comment on their own position about this before opening the discussion to the floor.

Let me briefly introduce the members of the panel: Adrian Joyce, the representative of the Architects' Council of Europe; Karl Otto Ellefsen, from Oslo, Norway; John O'Reilly, from Dublin, Ireland; Francis Nordermann, from Paris, France; Peter Garbriježić, from Ljubljana, Slovenia; and Jeremy Gould, from Plymouth, and Caroline Gould, from London, UK.

Let us start then in the order that I called out each member of the panel and we will give each member an opportunity to make some comments about what we have just heard and then we will open the discussion to the floor.

Adrian Joyce, Brussels, BELGIUM

Thank you, James. Good morning. I will be quite brief. I had a small advantage in that I saw some of these results a few weeks ago, and I was at that time very much impressed by the quality of information that this enquiry has been able to gather. Believing, as I do, very strongly in the project and in the collaboration between the professions and the educators, we, in the ACE Secretariat, did strongly promote among our member organizations the need to answer this questionnaire and I am very heartened that at the height of the summer holidays, by 20 August, we had more than 400 responses from professionals. This, I think, means that the results will ultimately be statistically reliable.

Beyond that, it was very interesting to see the last slide, where the typologies of competences expected by practising architects of those entering the profession are heavily in the thinking and behavioral fields, and not in the knowledge or ethics fields. I do not know what to draw from that at this moment in time, but I do think that this is a very significant finding of the enquiry.

Another aspect I wanted to mention, is that the profession has been very pleased to have this opportunity to express its view of the competences and it has no intention, in case there are any doubts in the room, of making any direct input into the content or the means by which the universities would teach. We were very happy to give our impression of our answers on what we would expect at the end of the day and how well we see that it is being delivered, and we are happy to debate and be present when these matters are being discussed, but

that is as far as we will go. That is what I wanted to say in starting, and now I will pass on the microphone to Per Olaf.

Karl-Otto Ellefsen, Oslo, NORWAY

I did not have the advantage of seeing the questionnaire beforehand, but the results seem very interesting. I will refer to something Per Olaf wrote in the last Newssheet that seems a very good point from which to begin. He said that the relationship between the professional body and the schools of architecture should be better defined from school to school and from country to country. At this time, it is very hard to discern what the relationship between professionals and academics is, or what it should be, and I think that is the core of this discussion and the reason we undertake initiatives like this. One could see it as a long-term relationship, in which there has always been some grumbling from one side or the other. I have been in this relationship for the past forty years and I can say that the grumbling is not as loud today as it used to be. I think one reason for this is that the situation is not at all clear on either side.

There is one thing I would like to add to this. We are in a very unique situation, in the past ten, fifteen, twenty years, a vast modernisation has taken place in the profession, mostly in the form of digitalisation, and what we, as educators, have been able to do is provide the offices with the people who are leading that modernisation, which of course makes us very popular. And the fact that we have offered a working force to the offices that they are absolutely in need of may be another reason the grumbling is not louder. I do not know.

In future, this may turn out to be a big problem. If it functions according to its intentions, the Bologna process may end up further prolonging this discussion, because it would necessitate some kind of specialisation in the MA degree, and then maybe a new kind of discussion would begin. Thank you.

John O'Reilly, Dublin, IRELAND

Ladies and gentlemen, I prefer to leave serious comment on this very serious topic till after the coffee break. Coffee is a necessary stimulant to me. I will just introduce myself and tell you why I have been invited to speak. I graduated in 1951, and a year before that, in 1950, I had the privilege to be president of the student union of the university I attended and one of my duties was to deliver an inaugurating address before the President of the school, the academic council, many of the staff, and a great number of the architecture students, who came to laugh. The interesting thing is, that the subject of this speech in 1950 was universities and professional formation. At that time, I knew everything about this subject, and as the years went by I knew less and less, but I think that after the coffee break I will know a little more. Thank you.

Francis Nordermann, Paris, FRANCE

Well, it is difficult to speak after such a major statement. Anyway, I received the information this morning and I am really quite impressed by the work Dino and his team have done in putting some order into what we know is a real state of disorder. It is quite interesting how people react to questionnaires and their answers have to be analysed in a long and slow process in order to get to the real core of the information. With regard to the differentiation you made between architects under thirty and architects over sixty, I was thinking that architects under thirty might be expressing their own anxieties on having to put their knowledge into practice, because they are still on the margin, at the start of their career, whereas architects over sixty

have been trained to be individual practitioners and they may be expressing their regrets or the difficulties they have bumped into recently. And that is why I think this process that we have begun and which was presented this morning will play an important role in enabling us to understand what the situation is.

I want to add something that may be particular to the profession in France, although I do not think so. The title of an architect entitles you to be an architect, but it does not answer the question of what profession you are going to follow. With the same background of education you can be a programme specification editor, you can be an urban planner, you can be a teacher, you can be an architect, or you can be a client, and I think that this might be something else we need to explore. Thank you.

Peter Garbrijelčić, Ljubljana, SLOVENIA

I will begin in the spirit of the analysis and say that the processes in the small systems are the same as in the bigger ones. So, Slovenia, which is a small country, makes a good case study, because all things are very visible, very transparent and on a small scale. In the process of creating a new programme and curriculum for Brussels we had to organise about ten meetings with the Chamber of Architects and our Minister for Environment and Space, which brought to light the different views that exist on what competences we want graduates to have. We, the academics, supported the idea that architecture is not just a job, but a mission, a public service, and that to us this ethical approach is very important. On the side of the profession, the Chamber of Architects expressed the feeling that our students are competent enough in design skills, but they expect more knowledge about the negotiation process, about the impacts on society, about understanding the legislation process (if not to know the legislation at least to know how it works). And, finally, the politicians want graduates simply to have enough knowledge and skill to pass the examinations, without any idea of what competences are necessary.

Apart from that, I think another problem exists in the fact that after the fourth year our students are practically part-time students, not formally, but because they are all involved in some kind of job, where they go to learn practical skills. My question is what should be done after their final year to ensure that they have both the skills we teach them and the practical experience they need to continue? And I think this is one of the aims of these efforts in Europe, to see what should be done to ensure that students get enough practical experience, and I think this is a question that should be discussed with regard to the relationship between the academics and the profession: who should cover the time in-between? For instance, in medicine, after the diploma they have three or four years of practice. In our case, who should cover that part? How would this be organised? Should it be a partnership between the chambers of architects and the academics?

I think addressing this issue is the next step. Yesterday it was said that competences are just a question of academic recognition, so I think that the next step should be that the same procedure is applied to the profession. Because at the end we have to know what the aim is in all these processes, whether it is to be more concurrent with other parts of the world or whether to make Europe become more flexible, more open to the free market. We have made the effort, we have done our job, now the onus is on the profession. Thank you.

Jeremy Gould, London, UNITED KINGDOM

I would like to begin by congratulating Dino and his team for the amazing feat of assembling these statistics, and I must say that I am very relieved by the results, as I understood them from the slides. I expected the results to be quite different. I expected the accumulation of facts and knowledge to be right at the top, and I am relieved that the architectural profession has actually voted somewhat differently on this aspect. The list with the top ten competences, shown in the first slide, is one I most certainly agree with whole-heartedly. I think it interesting how one relates that then to pointers that we might see in our programmes for education and their relation to the profession.

Clearly the profession now is quite different from what it was when we were training some twenty or thirty odd years ago. We have got a profession that is very quick on its feet and, comedian-like, is able to change in time with some current and very difficult circumstances, particularly financial and political circumstances. And we also have a profession that is very good at communication, and it is significant to me that this idea of collaboration seems to be near the top of everybody's list. I think the way we integrate collaboration and ideas of collaboration into our programmes is something that we could look at much more closely. There are those old collaborations with engineers, of course, which my previous institution, the university of Bath, was very keen on, but I suspect that we need to look much more widely at those ideas of collaboration and who we collaborate with – artists, engineers, but probably the building industry too. It is curious to me that the building industry, that actually builds the buildings for us, is often omitted from all architectural programmes and particularly from ideas of collaboration, and that is certainly something I would like to discuss a little bit later on if we have time.

I would also like to add to this idea of working while one studies as a way of planting ideas of collaboration into teaching. As you know, in the UK it is quite normal to have years out, that is between the 3+2 structure there is a year out working in industry, about which I sometimes have great doubts, but when it works, it works very well indeed, and it is a system which I would promote, I think, as a way of bringing other professions into architectural education. But maybe we will talk a bit more about that later. Thank you.

Caroline Gould, London, UNITED KINGDOM

I do not have much to add. I am a member of the RIBA Validation Panel and the International Validation Panel, in particular, but I am not here in an official capacity. Just for the purpose of information I wanted to say that the RIBA validates programmes of architecture across the world at the invitation of different institutions.

Now, picking up on a point made by Jeremy, on the collaboration with industry and practical experience, one of the things I have noticed across the world are the very different ways in which people engage and collaborate with other professions, and with the industries, and I think this could be explored, and to explore ways of connecting across the world would be very valuable.

James Horan, Dublin, IRELAND

Thank you, Caroline. Without a doubt some interesting points have been touched upon in these comments. What I propose to do immediately following the break, is to invite Dino up here again, because I expect that there will be direct questions about the exercise that he has been

conducting and the information he has given you in the slides, and then we can progress from that to a more general discussion. The only other thing I would like to say – in the way of giving him a little notice, although he does not really need any notice – is that Marvin Malecha is here from the United States, where I know similar discussions are taking place, so at the very least, before we finish today, it would be nice if he were able to give us the American slant on this particular topic, as this is a global issue and not something that is exclusive to Europe.

John O'Reilly, Dublin, IRELAND

I think it is very important that I should explain to you where I come from. I do not practise architecture any more and I do not employ any staff any more, so when I got a questionnaire to fill in about what competences I expect from young graduates I knew nothing about the subject for I work in a different world. I work now in a world that is despised by many architects; I work in a world which protects young architects from false accusations by clients and builders in the courts. I work also in the courts, very often protecting young couples from the sins of architects, and I work for insurance companies. I work both as an arbitrator and as a judge on the competences of an architect, and as a witness expert in courts in Ireland in the same field.

I know of three competences that lead to the downfall of architects in the Irish legal system, and they are numbers 20, 21 and 26, in your list of competences. Number 20, is the ability to create architectural designs that satisfy both aesthetic and technical requirements, number 21, are the necessary design skills to meet building users requirements within the constraints imposed by cost factors and building regulations, and number 26, is an understanding of the structure, the design construction and engineering problems associated with building design. I must say, I have also studied the case law coming from the UK courts, and there, in my analysis, exactly the same three competences, or the lack of them, lead to great hardship for architects and great problems. Now, it is interesting to note that the figures presented in this enquiry show that in Germany, numbers 20, 21 and 26 are among the top ten competences given. Austria also included in the top ten numbers 20, 21, and 26. And after that many countries included 20 and 21, but not 26. And, finally, in Belgium and Ireland, in the top ten they only mentioned number 20.

I will give you my analysis of that phenomenon and I must say that I think we must look at this area very seriously and ask ourselves why the practitioners made the kinds of demands on the schools that they did. I attributed the lack of demand for competence 26 to be in the top ten of so many countries as a failing of those professionals to have that competence themselves, or at least to fail to recognise it as an essential or even a desirable competence for young graduates. It is not without significance that the two countries that included the engineering competence in their top ten were Germany and Austria, where there is already a greater input in the schools in that area than there is in the other countries and where, indeed, the practitioners work largely also in the field of engineering. So it seems that it is those who practise using these competencies who recognise the loss of them or the shortcoming of them in a curriculum. But in a country like Ireland, where nobody thinks engineering is very important, they do not bother to include it as a competence, and yet, as I was telling you, in the Irish courts, lack of knowledge of structures is one of the biggest causes of hardship for new architects.

I just wanted to add at this point that I think it is important that the schools and the educators should speak to the professional institutions and say: "Please look at what is happening

to your members in the courts of your country with regard to professional competence and when you have established the causes of problems for architects at a legal level come back to us, the educators, and we will see what we can do". Thank you.

James Horan, Dublin, IRELAND

Thank you, John. I think that we have heard a very particular example being quoted from an individual who has an area of competence that most of us do not share, and that is the area of arbitration and the area of legal analysis of people's responsibilities. I think this will probably be something that we will want to discuss at much greater length. What I propose to do now is to ask you to address the presentation that Dino, on his own initiative, compiled, because I know that there must be questions that you want to ask before we proceed to a more general discussion about this entire topic.

Marko Savić, Belgrade, SERBIA

The main question now, from my point of view, is how to transform the expectations of the practitioners into a curriculum. We will be discussing our point of view tomorrow and we will make some kind of comparison between those aspects then. But I just wanted to point out that in the theory of educational psychology there are some levels that could be compared with the categories that Dino was speaking about. In this document from 1956 there are six levels of creative thinking, and those are knowledge, comprehension, application, analysis, synthesis and evaluation. If you take those six levels and compare them with the categories Dino mentioned, 'think', 'act', 'know', 'behave', 'ethic', we will find that there are very sharp lines that connect the two. So if we analyse the way in which knowledge is making some connection to thinking, acting, behaving and ethics, this does matter of course, but we cannot look at this diagram and say that it means that no one needs knowledge. Everyone needs knowledge – knowledge of how to act and to behave in the profession. So it is a very complex structure and we all need to think how to adapt the methodology of our work, our educational work, to reach these necessary competences. There are the theoretical tools, there is our experience, there is our knowledge of how to teach and then, the most important thing from my point of view, is to know how to stimulate students to think, how to provide them with the competence to learn and how to provide them with the competence to judge and select knowledge, which in this age of information abounds. As we all know, the problem is no longer one of finding knowledge, but one of selecting the precise knowledge that is needed for what we are doing at any given time.

James Horan, Dublin, IRELAND

Dino, would you like to make a response to this comment?

Constantin Spiridonidis, Thessaloniki, GREECE

I think that Marko is right to say that the most significant thing is not necessarily the list or the grouping or anything else, but the way that someone will bring about the result that the competences describe. I also think that how we will do this is not a discussion for this group of people – it is a discussion for the teachers, not for the heads of schools. In my understanding, if there is an operational value in this, it is exactly because it demands that educators think about educational practices in ways that will achieve these results and I think it directly turns the focus

of the teaching towards the result or the end product, rather than towards the process, which would include the knowledge and the types of knowledge taught. I also strongly believe that there is a serious shift these days in pedagogy, in the science of pedagogy, which seems to be more oriented towards teaching practices that focus on the end result rather than on the process itself. For example, in primary schools, children are given a typical problem to solve. If you want to paint a room that is three by two meters and has two windows and a door, how many kilograms of paint do you need in order to paint the room? When I was a student, there was only one answer to this problem. You had to estimate the total surface, subtract the windows and the door, and then say that you needed X cans of paint. But today it is acceptable and it is considered to be equally correct if a child answers that, "I go to the shop, I buy three or four cans of paint, I use two of them, but I have agreed with the man at the shop to give back what is left over". You see, this is considered equally correct because it solves the problem. There is also another solution to be considered: "I go and buy just one can, I paint as much as I can and then I am in a position to understand how much more I need, so I go again and buy the rest and that is fine". So these two different approaches are also considered to be correct and the pupil is evaluated equally with one who rationally makes all the calculations. So it is not only mathematics that can provide the solution to this problem, there are other ways as well, and this is where the idea of competences comes in, because an architect does not only need to be competent in architectural design, there are other less obvious competences that are also needed.

And to come back to this discussion, if we have the competences defined at a political, if you want, level in our schools, then the school can decide which it wants to promote and it will make them its objective and all the courses in the curriculum will contribute to students acquiring them. For example, critical thinking and understanding can arise from any kind of course, even history courses, because someone can teach history in a way that will achieve this competence. So it is not a question of teaching history, but it is a question of teaching history while at the same time achieving the competences that someone would like to have.

So this is why I think that this kind of discussion will give us the possibility for a further investigation, maybe in another forum and in other kinds of workshops, into how we will use our teaching practices in order to achieve the competences which we will define as the most significant.

James Horan, Dublin, IRELAND

Thank you, Dino. I am going to ask Herman to comment.

Herman Neuckermans, Leuven, BELGIUM

Thank you Mr. Chairman. I graduated in 1967, I have had coffee, and my confidence comes from the fact that I have chaired three to four visitations to schools in Europe. So to start with I would like to say that I hope you receive my comments and questions as a constructive critique, because I fully appreciate what has been done. The first thing, however, that I think should be said or written, if we are to report on this issue, is that the demands from the practice only partially really influence what we will do, because I know that in Europe a lot of schools are shifting from the education of architects towards education in architecture. And this connects with what Francis Nordermann said earlier. We have statistics about that from our school, about

graduates who have gone on to work in many different professions. That is the first thing and it is very important, because I too think that it should be part of the debate later on.

The second thing is that I have been looking at the competences and if I take away two words, you would not know which profession we were talking about. One example is where it mentions 'architectural design', and if you take away the word 'architectural', we could be talking about any kind of design. I am using this as an introduction to say that I am really very deeply surprised to see at the top of the list the capacity to develop analytical and critical thinking. Critical thinking generally goes hand in hand with university education, but analytical thinking is the trademark of the engineers. I have always had the impression that architects have a holistic, and open mind and it is strange that it is not at the top of the list of what they need. Because the universality and the multi-talents of the graduates of an education in architecture, who are capable of working in many professions, are due to the fact that they have been trained to have open minds and to think creatively and critically. I am not against analytical thinking because I was trained as an engineer/architect, so I know what this is, but I do want to say that I am a little bit surprised that analytical thinking is shown here, but a holistic, creative and open mind is not.

I have a suggestion from my experience in visiting schools. A lot of work has been done by quality assessment organisations and I know the Dutch one very well, and I think that later on the competences should be put in a matrix; do you know what abscissa and ordinate are? In the abscissa you have the levels that eventually mean BA and MA, and in the ordinate you have what they call the Dublin indicators, and the Dublin indicators pertain to cognitive capacities and attitudes. The cognitive capacities pertain to knowing, understanding, judging and communicating and the highest level there is, longing to learn. So these things are there, but I think that you will have to put them in a framework later on.

Finally, I have a remark to make on the results we have seen. If I understand correctly, they represent the answers of the members of the ACE, not the schools. Can you give us an idea of how many responses you had from the different countries, or is that too technical a question for the time being? I think the figures from some countries rely on a lot of answers and some do not, but this may be clarified further when you continue with the analysis.

James Horan, Dublin, IRELAND

Dino, can you give some indications concerning the numbers?

Constantin Spiridonidis, Thessaloniki, GREECE

Yes, of course. As far as I remember, without looking at my files, there were approximately 430-435 answered questionnaires. Most of them were from Sweden, so the presentation of Sweden was based upon about 200 questionnaires. We received 100 from Germany, about 35-40 from Greece, a similar number from Austria, 10 from the UK; and I think that the fewest were from the UK, Ireland and Belgium, so you get an approximate picture.

James Horan, Dublin, IRELAND

Obviously the process is going to continue and hopefully additional answers will be received. It may also be necessary I suppose, once that has happened, to maybe rephrase the questions, because as you know, very often the answer depends on the question that is asked. Does any member of the panel wish to respond to any of the questions?

Francis Nordermann, Paris, FRANCE

Maybe I will echo what I was saying earlier, but I think that it is quite important, in addition to the demand of the profession, to focus on the discipline itself. The presentation that you gave us this morning is really very impressive and I think it would be given even more value if it focused on something that has to deal with what architecture is about.

I would like to mention a French anecdote. Recently, we had difficulties with the management of universities because, as you may know, the French curriculum in architecture depends either on the Ministry of Housing or on the Ministry of Culture, which changes every ten or twenty years, but it never depends on the Ministry of Universities and Higher Education, so we have had real difficulty in managing mobility. Students in architecture are students in architecture. They could not transfer to geography, they could not transfer to philosophy and philosophy students could not transfer to architecture. And this is a major point, because the issue, the point where the discussion was really tough was precisely on the discipline. And you know that architecture is a skill, it is based on know-how, it is something that requires a lot of personal abilities and skills, but nobody was speaking of the corpus, nobody was speaking of a discipline that could be defended as such. I suppose nobody had ever heard of the ancient Greeks being architects or of Ippodamus of Militos. But, you know, sociology was part of the official disciplines and sociology only started in the 19th century. So this was a major discussion, more so because it helped with the opening of the title of the architect to all kinds of professions related to space or to the ability of making a synthesis, and I think that is a great asset to the discipline.

James Horan, Dublin, IRELAND

Thank you Francis. I am just going to ask Peter to speak on this too and then I will ask Lucio Barbera to say something.

Peter Garbrijelčić, Ljubljana, SLOVENIA

So far we have been discussing about the competences, but I think that there is another important question about the relationship between academics and the practice. We are talking about these two as if they are separated in the school, so I prepared a questionnaire about faculties who practise or have financial activities. I think that it is interesting that there seem to be big differences in this aspect across Europe. For instance in Greece, I heard just now, there are no financial activities on the part of the faculties, but there was a school I visited last week, also in Greece, where 50% of their income comes from that kind of work, which means that they have a design studio that designs real projects. So now I am asking, what are our schools? Are they only academic institutions? Are professors completely separated from the profession or do they practise the profession in their offices outside the school? Do professors have to have two different lives, or is it possible, according to the Bologna process, to work with students in our design studios on real projects, and thus connect the school with the practice and the industry, so that the students learn by doing, as is quite common in England? We used to do this in our school, about ten years ago, but then we lost our license because the Chamber of Architects said that it was illegal. In this respect, I think that we need to come to a compromise with the profession.

Then would come the question of how to manage this kind of imported contribution from the practice to the school. For me this is a very important question, especially in regard to the

Bologna declaration, that states that only 20% of all our work in the schools should be lectures and that everything else must be seminars, design projects and so on.

So I will pass out my questionnaire and I hope I will gather about 100 answers and later on, say next week, I will send you my commentary on your answers. Thank you.

Lucio Barbera, Rome, ITALY

Maybe my suggestions can be included in the full list of abilities and competences that our friend Constantin will produce in the future. For the moment of course, I think we are still at the very beginning of this enquiry.

Now, my position is this: it is clear that we are witnessing a very important shift in meanings and procedures within the profession and I think that schools must accept the idea that we have to adopt new ways of teaching and learning. I want to make a special reference to the very brilliant presentation that James Horan held in Rome a year and half ago, under the title "Continuing Education", because for me continued education is the best representation of the change in which we are involved in and the next generations of architects must be brought on board. This calls for many changes also in the basic education of the architect and it is interesting that the only direct reference to continued education that I was able to pick-up among the items on the list was 'learning to learn'. Other references were indirectly included in 'ability to work in an interdisciplinary team', for instance.

I think that we now see that continued education will involve the whole professional life of an architect. We must also take into consideration the fact that an architect will be involved with different roles, not only learning roles, but also leading and teaching roles, not only in an academic way, but also as a professional passing knowledge on to other young professionals, and I think this must start in the school. My idea is that schools should take the initiative and the responsibility to teach the young to lead a team and to pass on their competences to less competent friends or fellow students, as well as the ability to continue learning on their own.

Finally, I saw that the survey included PhD diplomas, not only MA and BA diplomas, so I ask you, what is a PhD education, if not to learn to lead intellectually, but also in the practice, and to learn how to teach?

James Horan, Dublin, IRELAND

Thank you, Lucio. I think the notion that Lucio has just identified about learning to learn is very important. As a head of a school, I would take the view that in the same way that we are taking responsibility for attempting to introduce the notion of sustainability as part of our inhabitation of this planet, we also have the responsibility in educating our students to produce sustainable architecture graduates, who have reached the point where they can continue their education alone without the support of the university. This is a philosophical position that I think many of us would subscribe to and I think that this is one of the points that Lucio has identified.

Svein Hatløy, Bergen, NORWAY

Thank you Mr. Chairman. I am very grateful for the work and I am very impressed with the research. You may not think that my next remark is very serious but it is the truth. I liked your presentation very much, especially the slides that use colours to indicate the categories, because I like colours better than words. And there was someone earlier who suggested that

we should rephrase things, and I agree, but let us keep the colours. It is impressive to look at. I especially like this image with all the yellow on top and all the brown beneath, because it is a nice image for us who like acting and behaving. So I have many comments but only one question, which is, what do “act” and “behave”, mean? What do these different colours indicate?

James Horan, Dublin, IRELAND

Dino, would you please respond?

Constantin Spiridonidis, Thessaloniki, GREECE

No doubt it will take time to find the competences that correspond exactly to one thing or another, but the idea behind this was that we wanted to group the competences according to common points of reference. For example, there were competences that had to do with thinking and understanding, so we put those in the category of thinking. The category of acting, which is the blue area, includes the capacities to do, to take and to make use of, so it depicts professional activity, if you want. The yellow is about behavior, which has to do with communicating, behaving in and working in a group or alone. I have to admit that there were competences that were not clearly defined, for instance, acting and thinking are not very easy to separate, and sometimes there were things that were hard to categorise.

So this is an issue to be developed and it is true that some of these competences could be put in more than one category, but for reasons of clarity and just to have a tool to inspect the situation and to give us the opportunity to discuss it, we put them in one or other category. We made the classification in this way: we defined the competences as those to do with thought, action, knowledge and social and moral sensitivity. With regard to your remark, the competences that concentrated on issues of knowledge are shown in the brown area. As you see there is a lot more brown in the bottom part, where the knowledge-based competences are, whereas a lot of the behavioral competences appear in the upper part, so there is a lot of acting and thinking represented.

James Horan, Dublin, IRELAND

Thank you, Dinos. Richard?

Richard Foque, Antwerp, BELGIUM

This survey is very impressive and it provides plenty of food for thought and reflection. However, I think that we should be extremely careful in drawing conclusions, and already a few people have expressed different reasons for that. I would like to make a comment regarding these results. Personally, I do not think it strange that there is a difference between the results of the academic community and those of the profession. As we can see, the brown, for the profession, is at the bottom, and for the academics it is at the top. I do not see a contradiction there, and I will try to explain that. Having been a part of a large office for the past thirty years, I know that when new people come in, depending on the position we are looking to fill, knowledge is the bottom line, because we are looking for people with added value to knowledge, and that added value of course is in their behaviour, their ethical attitude, etc. So it is not surprising that when you ask the profession, these are at the top of the list. And of course if you look at the top ten, only two competences really apply to the architectural profession.

All the others apply to almost every function or profession, which shows that there are some qualities that are very important to being successful in the contemporary world, whether one is an architect, a medical doctor, a lawyer, etc. So my opinion may be a self-fulfilling prophecy, but you know, you get what you ask for, and I for one am not surprised. And we should definitely not draw the conclusion that knowledge is not important anymore, on the contrary, I would say, it is very important.

James Horan, Dublin, IRELAND

Thank you, Richard. Karl-Otto would like to say something here.

Karl-Otto Ellefsen, Oslo, NORWAY

I want to make a very small statement, because I do not feel very comfortable with the categories. I think that we have to remember that there is a very complex relationship between knowledge and skill, just as there is a very complex relationship between behaviour and skill. And I am afraid that in discussing this, there is a danger that we will get caught up in the old discussion about whether a school should be a library or whether it should be a kind of laboratory, when we know of course that it must be both. It is an excellent discussion, but I just wanted to mention this.

James Horan, Dublin, IRELAND

Of course, the minute you begin to categorise, this difficulty immediately emerges. But as architects, I think it is the holistic interaction of these competences, which Herman referred to, that perhaps makes architecture different from other professions. However, a start has to be made somewhere and it does not mean that these definitions are cast in stone.

Christian Kuhn, Vienna, AUSTRIA

I have some comments on the statistics and one suggestion. I was very impressed by the list of competences you presented, however I was less impressed by the numbers. I think that 400 questionnaires, half of which come from Sweden, are not representative of the million architects in Europe. I think it is important to collaborate with professionals from social sciences, so you can have statistics that you can trust. I would not be able to trust these figures as related to the ranking itself. Some rankings can be irrelevant and some can be very important, as long as they are statistically sound.

I would also like to question whether you really differentiated between employees and employers, because in the case of Austria, if you distributed the questionnaire to the Chamber of Architects, they would only send it to employers and would not hand it out to employees, and I think that this is an important distinction. I also think that it would be interesting to see how far apart the views of the practice and universities are from each other.

The suggestion I wanted to make is that we think about using this whole thing as the basis for an accreditation process and to think on what would be the consequences of such an action. Because I have the impression that in the next five years we will experience a big boom of accreditation in Europe, and we have to keep in mind that the Bologna process is not just about implementing the BA and MA system, but an important part of it is quality assurance and accreditation across schools in Europe. I think that in 2007 there is a deadline for this as

well, and I do not know how developed the national institutions are to deal with this. And the really tricky question is how far we can bend all these criteria to actually allow different nations to have different accreditation values, which will also reflect on the relationship between the profession and education. Will we have just one MA accreditation scheme or hundreds of accreditation schemes, all of which will be different? I think that either case would be useless. I believe accreditation is an important issue and we could discuss it tomorrow or at the next conference, and I would like to ask our guests from the US to tell us a little more about it this afternoon, if possible.

James Horan, Dublin, IRELAND

Thank you, Christian. I think you have raised some very interesting questions and we might be in danger of moving into another area of discussion, but I think that it is an area which is really important and which should be on our agenda. And I suppose that we may find ourselves in the position of trying to find a path between maintaining diversity, maintaining the richness that comes from diversity and providing some sort of a level playing field for those who are involved.

Jean-Paul Scalabre, Paris, FRANCE

I would like to say a few words, not from the side of the schools, because I am not a teacher, but from what we call the profession. The Architects' Council of Europe gathered all the architectural bodies and professional associations all over Europe, and I would like to clarify something, which I think you will agree with but it is important to say it again, that there is no demand from the profession to take part in such a debate, because we do not want to interfere with the freedom of the schools to organise their own courses. I think that we must keep this freedom as a principle and put it together with the idea of skill, the know-how, that a professional architect needs to do his or her job. And we know that the profession of an architect is not only architectural design, there is a great variety of other jobs that someone with an architectural education can do, but regarding architecture as the profession of working architects, we know that we need a special period after the academic education to learn what cannot be learned in a school, even if it is the best school in the world. Because this is not only a question of theory and culture, although I am convinced that architectural culture and architectural theory are very, very important both in the school and in the practice, I also think that there is a need at the moment to reach something that cannot be learned without experience. I think that at this moment there is a definite need for a relationship between the profession and the schools, and there may be different ways to organise this relationship, this partnership, but as a first step, I do not think that it would be a good approach to say that the profession has special demands. So as you see, I think it is important to repeat it again, because I think that it may clarify the discussion.

James Horan, Dublin, IRELAND

Thank you, Jean-Paul. I think that you are very right here, and I think that the keyword in what you have said is partnership. I agree that partnership is our strength and the way forward.

David Porter, Glasgow, UNITED KINGDOM

I wanted to suggest that there is a relationship between the competences and the learning outcomes that our students are meant to exhibit when they finish studying with us. And I would also like to suggest that there are different conceptual models that apply in the profession and in the school, which have to do with the way we value competences. I see that there are three models, and one, the apprenticeship model, has already been mentioned. John O'Reilly's provocative reminder that architects can get sued, really reflects that we should be producing people who are competent in areas such as construction. Then there is a different kind of model that connects with what we have been talking about, and I do not know quite how to describe it, but it is often not specifically about architecture, but about creating highly educated professional practitioners. Then there is a third model, which we have not mentioned, and that is the star system, where the schools have no choice but to operate within the orders of the profession.

To develop the discussion about the values that are embedded in these, I want to mention that in the UK we have a free weekly newspaper for architects, *Building Design*, and the headline is always the same: "Star Architect Wins Commission", followed by a big picture. On the third page you find, "Architect Gets Sued". This is more egalitarian because if you are a star architect you get a bigger headline, but even if you are not a star architect, at least you get a mention. What it never talks about and I do not think that it is readily in the architectural public's consciousness, is the third aspect of this complex set of attributes that we wish architects to have, many of which are not specific to architecture. Now I think that there are different values attached to these and to explain that I want to put us all in a situation that I think we have all been in, which is assessing student work. Say that there is a project on the wall, and a young member of your staff says, "This is a star architect, the scheme is fantastic". Then there is an older teacher of architecture who says, "This scheme has to fail, look at that staircase, there is not enough headroom and the beam that holds it up is clearly insufficient. This student does not know about construction." And then there is a third person, who is usually someone like us who says, "Actually it is between the two; this student does not know about construction, but he shows here, here and here, that he has learnt how to learn, so he has the capacity to learn these things. Equally as with many star architects we could say that their ability to develop a transdisciplinary understanding is very limited. Now I can think of star architects who have no ability in that aspect at all, therefore this student should get a middle mark". So I think that all of these are loaded with values because they give rise to the question of what kind of architects we are looking for. Are we looking for people who are generic professionals with an understanding of architecture and so on? Are looking for people who are going to raise the banner for architecture in the future? Or looking for competent people? And I think that this is a discussion we need to have with our professionals and with our professional bodies, because I think that it is very unclear. I know in the UK this argument is being held in the Architects' Registration Board, because so far they have had the apprenticeship model and they do not yet know how to move beyond it.

James Horan, Dublin, IRELAND

Thank you David. I think that there are some very interesting insights in that contribution and your example is one that as teachers of architecture I think we are very familiar with.

Ramon Sastre, Barcelona, SPAIN

I think the results of such an enquiry are always positive because of the way they affect us. There is no point in discussing whether the number of answers is enough or not, or whether some questions are missing. What is important is that the enquiry has generated this debate and that is always positive. In fact, we could address this enquiry to different bodies; to the teachers and to professional architects, as we have here, but we could also put this enquiry to the industry, or to the politicians, because the issue is so general, and we must be able to filter the results according to whom we address these questions to. Of course the professionals have a special interest for us because they are the direct result of our schools, so they look at the values of architects according to what they receive. However, this may mean that they are judging in a special way that is not the norm. Tomorrow we have the session on what we must do in our schools according to the answers of the professional architects, so we can take this up then and reflect deeper on it. For our part, what we have answered depends on the questions, that is true, and probably according to the answers we can change the questions and that is a never-ending process, but one which we have to undertake.

I would just like to make the suggestion that based on these results some of us may change our minds about the way we judge what we are doing now in our schools, and I think that the most important result of this enquiry – and I am not thinking about whether this will serve to give accreditation to schools or something like that, because that is complicated and it would be dangerous to begin such a discussion now – is that it has generated this debate for us here.

Stefano Francesco Musso, Genoa, ITALY

Everything I wanted to say has already been said in some way, but I would like to make some general observations, as it is still very early to comment on this kind of data because it is not entirely representative of the actual situation. But even if we had questionnaires from all the existing professionals in Europe, I think that we cannot forget that each set of data must be interpreted, and to interpret it I think that we cannot forget who we are and where we live and what we are doing in other moments of our life. So, for example, each comment, each evaluation of these data, or of the future complete data, must not be separated by the evaluation that we in other times, on other occasions, at other levels, with other instruments, made of the quality of our built environment. For instance, if I see in a newspaper that other cities are destroyed by the bad quality of contemporary architecture, then I cannot give any importance to these answers because I think that the professional who answered these questionnaires is partly responsible for the quality of that built environment. So although I know that this evaluation is a very complex process, I suggest that we keep this kind of problem in mind too.

Something else I want to stress is that the mood or the attitude of those who answered the questionnaires also plays a role. So it is not only a problem of there being many fields in which a professional architect can practise, as was already mentioned, it is also the attitude of the person who filled in the questionnaire that is important. What does someone have in mind when he is filling in a questionnaire? Is he thinking of himself as a professional, is he thinking of the ideal architect, is he thinking of the kind of person he would like to employ in his office? These are all different things that have a far greater influence on the results of a questionnaire than we may realise. Of course the answer depends on the question and on the way someone interprets the question, and that means also that the definitions of the competences are quite

difficult because some times the distinctions are not very clear, but it also depends on who answers the questions. For example I do not find the distinction between architects that are less than thirty years old and over sixty particularly surprising. Architects over sixty years old were perhaps thinking of the schools they attended and, as you may know, what is far from the present is always marvelous, because everything bad has been forgotten and there is a sense of sweet nostalgia for the past. On the contrary, younger architects are often angry with their teachers and that may show in the results as well.

Finally, there is a special connection between what has been said by the academics and what has been said by the professionals, but we continue to treat these two families of answers like two sides of the same coin, without distinction. On the contrary they are two different worlds. We may also need to address the same questions, not only to the academics and the professionals, but to our students, because our present students will be the future teachers and the future professionals. So why do we not ask the students as well? I do not know how that would be technically possible, but it would be interesting to see which are the competences that they think they have acquired or are in the process of acquiring and which are the competences that they expect they will be able to acquire by the end of their term of studies. I think that we, in this place, not only the heads of schools but also the teachers, cannot forget the students for they are the reason of our existence. And I suggest that we cannot speak about what the professionals expect from the teachers or how the teachers judge the work of the professionals, while forgetting the reason of our existence.

James Horan, Dublin, IRELAND

Thank you, Stefano. I think that you have touched on an extremely important point. The stakeholders in the middle of this are the students, and I do not see any reason why the questionnaire cannot be expanded to include them.

Ted Landmarks, Boston, USA

I have two questions. One is, which of these questions most specifically addresses technical skills, particularly with regard to computers and things like sustainability. And I ask in part because students themselves express a strong interest in developing competences in those areas and yet it does not appear that they have ended up on anyone's list; that is except for number 10 among the practitioners over the age of sixty. So I just wondered, which of the questions really begin to address those kinds of things?

And then the second question I had goes back to Christian's comments referring to accreditation and in some respects to the use of these data. In the USA there is an independent researcher who for the last eight or nine years has been doing exactly this kind of poll on employers and has been using the data to rank schools and to say that some schools are clearly better than others because the employers themselves would rather hire graduates from those schools than from other schools. Because looking at this, I begin to wonder whether there has been thought on some sort of strategy for releasing this information in a way that positively influences both the development of accreditation standards and also, inevitably as the EU has more of an influence here, the ranking of schools. I have been in a couple of conversations where people from European schools express a lot of pride in the fact that they got their graduate degrees from American schools, primarily those in Boston and in New York, and I would like to believe that more American students would also think that it would be beneficial to come to Europe,

where so much innovative work is going on. It seems inevitable that some sort of ranking is going to emerge from this kind of discussion, and I wonder what kind of strategy is in place to ensure, whatever sort of system of ranking occurs, that it is driven by the schools rather than by independent researchers, as is the case in the US.

James Horan, Dublin, IRELAND

I wonder if Jeremy could make a comment on the ranking of schools in the UK, which may bring some light into the discussion. And then if Dino could make a comment about what Ted has said and also about the question that Stefano Musso raised in the context of taking student opinion into account.

Jeremy Gould, London, UNITED KINGDOM

I should just say that schools are ranked in the UK; that is they are ranked by national newspapers, The Times and The Guardian particularly, and also by one of the architectural newspapers, Building Design, who separately collect a whole range of statistics both from the universities in general and from the schools of architecture in particular, and mysteriously put them all together to make a ranking of schools of architecture. Some schools refuse to take part in this, because they do not trust the statistical analysis or the conclusions drawn from it, so for example the London Metropolitan University refuses to take part in it, whereas those schools that tend to come at the top of the rankings are of course very keen to do so and use them in their advertising and their wooing of students from the US, I assume, and elsewhere.

The trouble, of course, is on what basis these statistics are assembled. Often it is done with the amount of money the institution spends on students, the amount of money it spends on books in the library, or the number of PhD students engaged in the system, and many of those factors do not actually affect the quality of undergraduate education. Of course it brings up that old conflict about the amount of research that is being done in a university and the amount of teaching that is being done in a university, and those items do not come up in the ranking order. But there is no doubt at all that the ranking is used in the UK by would-be students to choose which institution to attend and they are certainly used by the institutions to influence the incoming students. I would also say that the institutions spend a lot of time and effort trying to influence The Times, The Guardian and Building Design, in order to make sure that they either maintain their position in the rankings or of course rise up in the rankings. So of course these things do exist but they are not based as far as I am aware on any of the sort of statistics that we have been talking about.

James Horan, Dublin, IRELAND

Thank you, Jeremy. What you say is highly significant and there does seem to be such a trend creeping into society in general. People like to write stuff, and we in schools of architecture are unlikely to remain exempt from the process, however it is conducted. Dino, would you like to say something on these points?

Constantin Spiridonidis, Thessaloniki, GREECE

I was just looking at the list, and there are two or three competences that refer to the use of new technologies and the Internet. There were no competences referring specifically to the

use of IT, for instance, but those skills were covered under modes of expression and graduates' ability to express themselves using different means of communication.

As for the idea of addressing the questionnaire to students, all I can say is that in my view that is an entirely different project and anybody who wants to can develop the idea as they see fit.

James Horan, Dublin, IRELAND

It seems that Stefano Musso has just found himself a new job!

Constantin Spiridonidis, Thessaloniki, GREECE

Turning to the question of ranking, I want to say that in this enquiry we wished to avoid any kind of ranking of schools. The spirit of this meeting, the communication and the open exchange of ideas that we have been trying to cultivate in this room over the past nine years were not aimed at defining who is the best among us or at making comparisons between our schools; on the contrary, our aim has always been to further our understanding of each other. And this enquiry was mainly oriented towards that understanding – it was never intended to be an objective representation of reality. We targeted a large number of people, we collected their views, and their views included their different readings of the questions and the different ways in which they understood the somewhat unclear definitions of the competences. We must not, however, depreciate something just because it is not perfect – it is not possible to make a perfect statistical representation of what is going on.

With regard to the question posed by our colleague from Vienna regarding the statistical difference between answers, I think that it is worthwhile pointing out that this ranking does not mean that the only competences considered necessary are those in the top ten. For instance, as Richard already mentioned, the fact that knowledge was ranked so low by the professionals does not mean that they do not consider it important: it only means that when you ask them which abilities they find most important they place practical and behavioural skills at the top. So we should be careful not to misunderstand the results and to think of this as a kind of depreciation of knowledge. And to give a statistical answer to something that is not statistical, if you estimate the variation, you will see that it is not serious – between the largest and the smallest the variation is equally distributed. There is of course a distance between the least significant and the most significant, but there is a very big group at the top of the list that is more or less close. This is why we made a list of the top ten competences, because ten gives a group with which it is possible to create a profile. That was the only reason – nothing more, nothing less.

James Horan, Dublin, IRELAND

Thank you Dino. I am anxious to try and make sure that everyone who wishes to speak will get a chance to do so.

Pierre-Alain?

Pierre-Alain Croset, Turin, ITALY

I have two questions. The first one has to do with the questionnaire. When we define the competences of an architect, we clearly have to think about the context in which architects work today, and about the incredible complexity of the design and building process, in which the architect

is only one of a whole range of professionals involved. For this reason I think that it would be interesting to continue this exercise of defining competences, and more specifically with defining which competences are needed in the process of design and construction, because the competence of architects is only a part of it. If we can make a general list of competences then maybe we can better define which are specific to architects.

Another question is to see to what extent we actually train architects. I think that we consciously or unconsciously maintain a romantic idea of the independent architect, the head of an architectural firm, even though the majority of our trained architects are salaried employees or have changed profession or turned to specialised areas. Today there is a need of specialists in security, specialists in the negotiation process, specialists in representation, graphics, rhetoric and so on. These specialists could be architects, or they could be something else. They could be trained as architects, or they could be trained in other fields.

Another question has to do with the ability of architects to work in groups, because teamwork is one of the main competences that emerged from the ranking and it is very important. The need for inter-disciplinary teamwork especially is very apparent when you think of the architecture done by the best offices, for example Ben van Berkel, where the most creative architects work more and more in multi-disciplinary projects that use input from engineers, geologists, scientists, artists, and so on. And I think that a good way to instil a sense of teamwork in our students and to prepare them to work with other disciplines is to give them a chance to study in a multi-disciplinary context with design exercises where they could work with other architects as well as students from other disciplines.

Adrian Joyce, Brussels, BELGIUM

In responding to Pierre-Alain's remarks, I would like to refer back to a question David Porter asked, which has not been answered yet. David asked what the profession as a whole wishes to give to society. Because you, as teachers and heads of schools, and we, as professionals and practitioners, or in my case, as a policy-oriented architect, have all been through the full education system, and David's question about what we all want to give to society is a very good one. The answer on the part of the ACE is that we are fighting to ensure quality in the built environment for the citizens of Europe. It sounds like a very broad and vague concept but we link it to a sense of well-being in society, a sense of high productivity and a sense of efficiency; and by doing that we can link it to the political goals of the European Union, which are economic growth and jobs. And we are all aware that the role of the architect in forming the built environment can have a direct and very positive impact on these more general objectives of our society. So in considering these competences I think that it is important that we try to debate and come to some kind of consensus around that very general and philosophical goal.

Earlier Pierre-Alain asked me about the professional profile of architects and whether there is work underway at a European level to define a European architect or what the function of an architect is in the European Union. This is a topic that has been debated at the ACE; but it is a topic that always very quickly raises the temperature of the debate, because it is sacred ground for a number of countries, and therefore I can safely say that the ACE will not be establishing a typical profile for the European architect. However, and as a last point of information, the ACE, about four years ago, did carry out what I would term an information-gathering exercise to see what are the different tasks that fully qualified architects undertake across Europe. This

led to a paper, which is available on our Website, that defines what functions architects are performing at this present time across Europe. It is only a reflection of the information that we gathered, and it is not entirely scientific, but it has led to a list of about thirty such functions, among which are the architect-builder, the architect-engineer, the architect-task consultant, the architect-planner, and so on, right down through a very long list. So, I do not know if I have directly answered Pierre-Alain's question, but I would ask, as far as it is possible in our debates, that we try to keep in mind the more general question about what we want for society.

James Horan, Dublin, IRELAND

Adrian, thank you very much. Because we do not have very much time left I would ask you to make your contributions as brief as possible.

Dimitris Kotsakis, Thessaloniki, GREECE

There are four points that I want to make. The first is about the university and the profession; and the question is: what shall we do about the burden of the master-apprentice relationship? This is an obsolete institution. It belongs to the past, and it is only a burden to us who are working in a different context, in a teacher-student relationship. People tend to differentiate between the academic and the practitioner, and to think of the teacher as the academic in antithesis to the practitioner. This is a mistake – the teacher is not an academic and he does not stand in antithesis to the practitioner. The teacher is a fifth person facing four others. The first person the teacher faces is the architect. What kind of architect? This is a point that was made earlier. Are we talking about the star architect? The collective architect? The individual architect? It does not matter. The point is that the teacher is facing the architect. Secondly, the teacher is facing the scientist; thirdly, the artist; fourthly, the politician. The teacher stands facing all four of them and they affect every interaction between him and his students. So this is the teacher, the teacher who is not an academic. Academia is dead and the academic is dead along with the master, and they both belong to the past. Now we see the emergence of the teacher.

The second point is about competence. There are two aspects to competence, and if we have a single vision of competence we lose our perspective, and the perspective lost here is social responsibility. The two aspects of competence are content, which some call skill, ability or attitude, and relationship, which is authority. The first refers to the way we do things and the second to whether we have the right to do things. Let me give you an example. What number can we attach to the content aspect? 3? 33? 333? Here I have seen something like 33. Let us take just one example out of the 33 – for instance, analytical and critical thinking and applying knowledge to practice. This might or might not define the content aspect of competence. What about working with autonomy and working collectively in collaboration with others, or putting the two together? That is a different kind of thing. We are now entering the authority aspect of competence, because if we relate these to the star system or the collective architect and so on, these are not just abilities – they are something more than that. So you see we have to discuss competence from both aspects, through authority and through ability, and not only from the one aspect.

My third point is related to the content aspect of competence. Are there 3, 33, or 333 competences? Well, for that we have to turn to real life and see how many professional areas make sense to us; and as far as I can see there are no more than seven: design, construction, conservation, planning, teaching, research (both basic and applied) and a seventh, a very delicate

one, that includes publication, promotion, professional lighting, exhibition management, organising the market. So in fact we have seven established professional areas to analyse competences for, and I can give you no more than ten practical directions in these areas. So one way of attacking the first aspect of competence uses simple basic professional categories as a starting point, and then moves on from there.

And here I come to my fourth point, which is whether there is a way for integral competence. Just what is a person who is supposed to be a collective, or an individual, architect? Is he a designer? Is she a constructionist? Are they everything? What has planning got to do with design? Can you, as the European Directive says, separate urban design and urban planning from architectural design? Because they do make this distinction, saying that you need knowledge for the one and skill for the other. But this is silly. I am fully aware of the sense of the word, and it is just plain silly. How, the question is, are we to integrate all these professional competences into one, which is not simple, but integral, and which is the unity within difference?

These are my four points and I would like to close with an aphorism: surveys are good at giving numbers, analysis is necessary to give categories, and synthesis is necessary to give questions; and I think that next year we need to go into analysis and synthesis.

Maire Henry, Waterford, IRELAND

As has been said, many of these competences are generic to other professions; so I would ask what it is that makes us different. And I think that the primary difference is that we think with a design mind, as opposed to a business mind or a medical mind or a legal mind; and it is because of our design mind that our greatest competence is that we approach problem-solving in a holistic and creative fashion, as I think Herman called it. The understanding of design is missing from many other professions, and it is fundamental to protecting the environment and other aims of the ACE and our profession. So I think that the word 'design' should appear much more in the list of competences, perhaps under the section of how we think.

Almula Koksai, Istanbul, TURKEY

There is no doubt that this research is very inspiring, but we have to be very cautious on how it reflects on the educational curriculum and system. I say this, because I am currently working on a research project focused on measuring the intellectual capital of architectural practices, so I have some familiarity with these issues. Also, I do not really think that we are underestimating the importance of knowledge; but if we look at industry, we see that it is basically composed of small to middle-sized companies where it is not knowledge but the skills of human capital that describe or define their competitiveness. Therefore there is no doubt that it is more important for industry to have the skills they require from the professionals they employ, because that basically defines the wealth of a company. They know that they can replace knowledge, but it is more difficult to replace skills. So this research is very interesting, and we should be looking to it not to completely change our curricula or educational systems in a broader sense, but in the way we transfer knowledge or the way we create the educational system on a structural basis.

Sven Felding, Copenhagen, DENMARK

Just in brief, I would like to say that I am very thankful for the enquiry and I see it as a very fruitful way to continue the collaboration between the EAAE and the ACE.

I would like to ask whether the enquiry is going to continue, so that schools that were at the start of their academic year and were not able to answer the questionnaire may contribute? And I would also like to ask whether the enquiry results are going to be published on the EAAE or ENHSA Website, because it would be a very productive discussion to have within our own schools as well.

Svein Hatløy, Bergen, NORWAY

I would like to speak about the last slide. I must say that I feel very good in this audience. One of my colleagues said he did not feel very comfortable, but I do, and the reason for this is that these slides are a visual expression that make it easier for us to discuss the issues at stake, not necessarily to confirm or to contradict, but just in order for us to get an understanding of what is going on. I think a picture like this is the basis for that understanding. It shows that there is a communication now between the architectural offices and the educators, and I think that we should keep that picture in our minds. It was, therefore, very fortunate for us to have the blue and the yellow, because what are acting and behaving but what you do when you have been thinking and you have the knowledge and an ethical guidance of your own? I think that it is very important that the one does not oppose the other, that behaving and acting together make a performance, and that this performance is a form of communication with society. I think that this is very useful for the discussion and as for this performance, we must not forget that we have the possibility to act as artists, which means freely understanding and doing what we like. Thank you very much.

James Horan, Dublin, IRELAND

Thank you kindly. Marvin, would you like to give us the outsider's view, although I must say that you are very much on the inside?

Marvin Malecha, Raleigh, USA

I am going to present an American perspective, but I believe that it is important for you to understand that it is also a personal perspective; I do not pretend to represent anybody but myself. However, I have been participating in these kinds of discussions in the US for the twenty-six years that I have been a Dean, as well as in my work with the National Accrediting Board, the National Council of Architectural Registration Board, and now in the American Institute of Architects' Board of Directors, where of the forty members only four of us are educators, so we are under constant siege on exactly this topic of discussion.

I am at that uncomfortable stage in my life where I can say that this is an experience. I think that it is better to be younger when you say that, but nevertheless it is one of my biases. It is also a bias of mine that I have a daughter who graduated with an MA degree in architecture and has just entered the practice, working for Perkins + Will in Chicago, so I am going to bring another perspective to the discussion, that of being the parent of someone whom you want to be personally financially independent, which is another aspect of all of this that we sometimes forget.

However, what I will say is that these kinds of conversations generally come up because there is a gut feeling, an intuitive feeling, that a gap is widening between practice and education. This is something I came across in the American Institute of Architects' Board of Directors, and I must say that I was a great defender of the position that this gap is not widening; but now, after almost two years, I have come to believe that the gap is indeed widening, for several reasons. One of those reasons is that the practice is changing incredibly rapidly for reasons that have nothing to do with the spirit of the academy; the way offices are bought and sold, the way off-shoring work, as we call it, is being done by American firms all over the world, the way work is being done by firms from all over the world in the US, or even when the work is being done in the US the money may be Japanese. Everything is moving so quickly. And then there is the whole issue of building information modelling systems. There is the culture of education and the culture of practice, and the gap between them is widening, and this is something we need to address. Therefore this list and what you are attempting to do here is very important, and I give you great credit for it.

Underlying this, I have heard of Bloom's taxonomy of learning objectives, which has been mentioned over and over again by different people in different ways; and although that taxonomy seems to be under some stress I urge you all to go back to it, because it is really quite a wonderful list in my opinion. Awareness, understanding and ability are what normally get spoken about; but it is analysis, synthesis and evaluation that we speak of most frequently when we decide whether or not somebody is successful in what they do. So my first substantive observation for you here is that Bloom's taxonomy should be brought back into play in an objective way, to see if in fact it would help the discussion.

Now the other thing to remember when you ask people questions, is that you have to begin by asking serious questions with which you will engage and enlist them. This was said to me a long time ago, because being in a school in the US one of the things that I must do in my job is to visit offices, and because of the number of disciplines in my college, I regularly visit the offices of graphic designers, industrial designers, landscape architects, architects, text-book designers and animation designers. These are all people that are in my college, so I am always visiting their offices for a variety of reasons – to maintain the link between alumni and the school, to see how we are doing relatively to the employability of our students, and of course the important issue of whether or not they are able to give us money, because we depend on outside sources of support. So I have experience in asking these kinds of questions of firms, and over the course of my career I have been in over six hundred offices asking these kinds of questions in one way or another, so I have that perspective as well.

In my view, the first thing that happens when an individual graduates is that they assess their education by whether or not they can get a job. Very soon after that they assess their education by whether or not they can move on as an architect, whether they can pass the test or whether they can get recognition. Not long after that they come to the position of hiring other architects and other students and suddenly they become extreme critics of the programme, because now they are hiring people to do the work for them and their position gives them a different perspective. The next stage in their career is when they wish to become a partner or they wish to enrol others as partners; and that is the stage of their lives when I always say: "Buy a share in an architectural firm if you are willing to buy air, because I am not sure what it

is worth". So now they are in the phase of their life when they are going to buy air. Then they move into the firm where they are going to sell the air to other people, so now they want to make sure that their architectural education has prepared them for selling air. And finally, once they have received the money from selling the air, they now have the luxury of reflection and in that luxury of reflection they become nostalgic; now that they have reached the level that Aristotle called maturity, they look to the things that they should have done in their life and they decide that it is time to think of their legacy. So now they start worrying about their legacy, and suddenly all these issues about sustainability and social responsibility come to mind.

Now at this stage in Joe Esherick's life – Joseph Esherick was a very important practitioner in the US and one of the very few individuals to have won not only the gold medal from the American Institution of Architects but also the Topaz Medallion from the ACSA; I had the pleasure of having him as a friend and I still miss him – he gave me a few words of advice that made a tremendous impression on me. It was eighteen years ago, in 1989, when I was just entering the Presidency of the ACSA, and almost exactly the same discussion was going on. I thought we needed to understand the link between education and practice, and so we did a similar type of activity. Joe told me that the more successful his office became, the more they practised as if they were in the design studio in his school, a wide-open environment where ideas flowed freely and everyone's ideas were respected. He had a large firm in the San Francisco Bay Area with more than one hundred people, and the more they operated it like a design studio the more successful they became.

The second thing he said, pointing at a list similar to this, was that it reminded him of the structure of a building and how it is absolutely essential to have intense discussions about the structure of a building, but once they are finished it is relatively unimportant. So what is happening here is that you are having an essential discussion, but after that it will be essentially unimportant because then you will move on to another issue. And what is happening in large firms and small firms now in the US is that there is an issue that keeps coming up over and over again, and it relates to what you have identified here as the ethical quality of the individual. The question now is whether you can trust the individual and whether the individual is willing to assume responsibility for a project regardless of whether they are the lowest person on the totem pole or the highest. In the US at least, firms want to hire people who have a twenty-four hour commitment to the job. If they can get that ethical responsibility, that sense of responsibility to the firm, they can teach someone to do everything else. These firms have become increasingly sensitised to the fact that they are going to have to teach their employees, whether the newly graduated youngsters, who need to be shown the ropes, or the partners, who need to be taught how to use their telephones. So that is at the top of the agenda in America now, since the whole issue of being sued was settled a long time ago. I spent eighteen years of my career in Los Angeles, and we never said, "If I get sued": we said, "When I get sued". It was just part of the culture, so the whole issue no longer threatens the firm. In the initial stages I was very much like what I am hearing here today, fearing that we might be sued, and so the whole practice was structured around preventing lawsuits. However, you do not prevent them any more, you accept the fact that there is going to be litigation and that there is going to be conflict management and all of these issues; it is just an ongoing aspect of practice, and it is not the issue any more. The issue now is what happens when it all goes wrong, and whether you can you trust a person when that happens.

Another thing that it is important to understand is that there is a time factor involved in the results of the surveys; and I bring that up because not so long ago in my career – that is what

happens when you have been around too long – I remember being pulled aside by practitioners in the US who said, “You are producing too many students, you’re flooding the market”. Well, my daughter got a signing bonus to go to work for Perkins + Will in Chicago and not only did she negotiate what I thought was an extremely high salary but before she signed with them she signed a \$2000 signing bonus to help her move to Chicago. And this is what is going on right now. There is such a demand for employees that they desperately want us to increase the size of our programmes and produce more students. Well, I do not know how long that will last: sooner or later the price of oil is going to catch up with the building industry and all of a sudden they will be calling me again to tell me to stop producing so many students. So we are in a cycle right now that affects how people look at the answers to these questions, and I think that should be taken into account. Time is a very important aspect in this.

Finally, regarding these varying roles between education and practice, I have always said that practice and education are each other’s conscience. It is very important that practitioners are able to talk to us as educators and tell us what kind of people they need – not particular competences, but what Joe Esherick was talking about, the kind of person they want coming into their office. That is very important, and on the other hand we, as educators, necessarily protect a culture. We still need to teach people about history and theory, we still need to have these notions of ethics, but we cannot forget that there is only so much we can do with these young people. I mean, I get students who have grown up in some small town in the Appalachians, and the largest city they have ever been to in their lives is Raleigh, N.C. Maybe you do not get students like that, because you have such incredible resources right outside your front doors, but we do. We get students that have never seen a big city and to be honest, I was one of them. My love for architecture came by way of making things with the tools in my father’s gas station. I went off to university to study physics, where I met a Catholic nun who taught a course on modern architecture and I discovered the magic of architecture through her eyes. Then I transferred to the University of Minnesota to start my architectural education from scratch, and there I was fortunate to have a teacher, Ralph Rapson, who was amazing. But that is very much a typical American profile; and I suggest that we be careful with these kinds of lists, because we have the responsibility to provide a basic education. And I must say that this scares me a little – we do not want to get too specific about all of these skills because we still have to teach people about history and other very fundamental things in architectural education, and we have to teach a value system, and we have to teach people to question value systems. I think that this opens up a new frontier in architectural education and that is what happens in the stage between education and practice. What is happening in those two to three years after they graduate when they begin to practise? To me this is where you can address this list, to practices and schools together. Schools can go into practices to help them in what I call the practice academy and practices can come back into schools, and this is the frontier. And again, I repeat, I am giving you a very personal bias here, but I think that this is where we should address the culture of practice, within those first few years.

Finally, I would suggest that the goal for us is not to create sustainable individuals, because that is not enough. We are trying to create regenerative individuals, people who regenerate themselves and remake themselves and in the process contribute to the body of knowledge. There was a discussion here about teaching design more, and my contention is that for too long we have accepted the old model of higher education, that there is this division where science and engineering are over here and we are a bit over there. In truth we have our own domain of knowledge, which is the domain of design and I think that if we operate from that

domain we would resolve a lot of these problems. This is a highly personal point of view; I told you my bias upfront. Thank you.

James Horan, Dublin, IRELAND

Thank you, Marvin. As always you bring a wealth of wisdom and experience to these discussions; and I think it is very important for us, even though Europe is a big place, that we do not see Europe as insular. This discussion has been very valuable. but I think that we have only just begun; there is a huge area of development and investigation to take place. Before we finish, I think that I would like to acknowledge the tremendous and enormous work that has been done by Dinos, helped by Adrian Joyce and the ACE, to make sure that this baseline of information has been available for us to begin our discussions. Dino, we thank you very much.

Session 5

Graduates' Academic and Professional Profile

Contributions:

Julia Gonsales, Bilbao, Spain

Constantin Spiridonidis, Thessaloniki, Greece

Constantin Spiridonidis, Thessaloniki, GREECE

Good morning dear colleagues. As you have seen in the programme, today the discussion will be oriented towards competences in architectural education, the competences of graduates, and the way that educators understand those competences. We have already discussed the professional view, so this is the second part of the enquiry, which we will use as the starting point for the discussion, much in the same way as yesterday. I feel that we are very honoured to have Professor Julia Gonsales with us in this session. I have often said, that if today there is a discussion about competences in higher education in Europe it is because of Julia, for she was the initiator and the co-ordinator of the Tuning Project, both its European aspect and its Latin American version, an initiative which introduced the notion of competences as a tool, as a means by which to think about the curricula in higher education.

Of course, Julia has many other qualifications: she is an historian, an anthropologist, a geographer, and the director of the University of Deusto in Bilbao, to name only a few. I am very touched by her presence here, because she arrived this morning from Vienna, where she has to return tomorrow, and will only be spending a few hours with us. So I would like to take this opportunity to publicly express my gratitude for her gracious acceptance of my very persistent invitation to be here with us and to take part in this discussion. Thank you, Julia, the floor is yours.

Competences in the Teaching and Learning Process

Julia Gonsales, Bilbao, SPAIN

Introduction

The Tuning Project is convinced that the development of competences in educational programmes can significantly contribute to opening an important area of *joint reflection and work at university level in Europe* about the new educational paradigm, the need for quality and the enhancement of employability and citizenship and the creation of the European Higher Education Area.

Focussing on competences promotes the development of easily readable and compatible degrees and thus promotes transparency in European education. The Tuning Project considers that degrees are comparable and compatible if the learning outcomes as well as the academic and professional profiles are comparable.

Comparability differs from homogeneity and, referring to academic and professional profiles, it is clear that diversity is not a draw back but an asset. The definition of professional profiles relates to the needs of society and social needs and demands are very varied. This requires consultation with social groups and the requests of professional bodies at local, national or international level (in accordance to the aims of the degree) need to be taken into consideration. It is in this context that consultations are important. These consultations can be done in a variety of ways and in every case, the most appropriate form and shape should be sought. This paper presents the findings of the consultations made by the Tuning Project as a tool for reflection to obtain up-dated information about the needs of society.

It has to be stressed that profiles are not only professional but also academic. Relating to academic institutions, degrees are expected to fulfil the requirements of the academic community at national and international levels. Looking for a common language to express academic and professional profiles, the Tuning Project considers that the language of competences can be useful for expressing comparability in terms of what the degree holders would be able to perform. It can also express common points of reference for the different subject areas, offering a non prescriptive framework of reference for the academic community (in this case the European Academic Community) in a language which can be understood by European social groups, professional bodies and any other stakeholders in society.

Consultation becomes even more necessary in the "society of knowledge" which is, obviously, also a "society of learning". This idea is intimately linked with the understanding of all education in a wider context: the continuum of lifelong learning, where the individual needs competences to be able to handle knowledge, to update it, to select what is appropriate for a particular context, to learn permanently, to understand what is learned in such a way that it can be adapted to new and rapidly changing situations.

Change and variety of contexts both require a constant check on social demands for professional and academic profiles. This underlines the need for *consultation*, and *constant revision of information on adequacy*. Besides, the language of competences, since it comes from outside higher education, could be considered more adequate for consultation and dialogue with

groups not directly involved in academic life. This contributes to the necessary reflection for the development of new degrees and for permanent systems of updating existing ones.

Thus, in the reflection on *academic and professional profiles*, competences emerge as an important element which can guide the selection of knowledge which is appropriate to particular ends. It presents an integrative capacity to choose what is appropriate from a wealth of possibilities.

The emphasis on learners obtaining a particular competence or set of competences also affects the transparency in the *definition of objectives* set up for a particular educational program, adding indicators with higher possibilities for being measured, while making these objectives *more dynamic* in taking into consideration the new needs of society and ultimately relating to employment. This shift normally shows a change in the *approach* to educational activities, teaching material and a great variety of educational situations, since it fosters the systematic involvement of the learner with individual and group preparation of relevant issues, presentations, organized feedback, etc.

The Questionnaire

In the Tuning Project the consultation on transferable skills or generic competences was done by means of a questionnaire.

The objectives

The objectives of the questionnaire included:

- The wish to initiate the joint discussion on this field of competences at the European level, based on consultation with groups from outside academia (graduates and employers) as well as from a broader base in relation to academics (both Tuning representatives from each of the subject areas involved as well as other non Tuning people).
- The attempt to gather updated information for reflection on possible trends and the degree of variety and change all over Europe.
- The desire to start from the experience and the reality in order to reach levels of diversity or commonality between the different countries, starting the debate from specific questions with concrete language.
- The importance of focusing the reflection and debate at three different levels: the *institutional level* (the basis and the first one to take place), the *subject area level* (a reference point for the HE institutions) and the *aggregate level* (a second reference point in relation to the situation at European level).

The content of the questionnaire

Definition of competences

Several terms: capacity, attribute, ability, skill, competence are used with an often interchangeable, and to some degree overlapping meaning. They all relate to the person and to what

he/she is able of achieving. But they also have more specific meanings. Ability, from the Latin "habilis" meaning "able to hold, carry or handle easily", led to the word "habilitas" which can be translated as "aptitude, ability, fitness or skill."

The term skill is probably the most frequently used, with the meaning of being able, capable or skilful. It is often used in the plural, "skills," and sometimes with a more restricted meaning than that of competences. This explains the choice of the term competences in the Tuning Project. However, the two terms "transferable skills" and "generic competences" may be considered as having the same meaning. They relate to those competences which are common and can be identified in different degree programs at a certain level.

In the Tuning Project, the concept of competences tries to follow an integrated approach, looking at capacities via a dynamic combination of attributes that together permit a competent performance or as a part of a final product of an educational process. In Line One, competences are understood as to include *knowing and understanding* (theoretical knowledge of an academic field, the capacity to know and understand), *knowing how to act* (practical and operational application of knowledge to certain situations), *knowing how to be* (values as an integral element of the way of perceiving and living with others and in a social context). Competences represent a combination of attributes (with respect to knowledge and its application, attitudes, skills and responsibilities) that describe the level or degree to which a person is capable of performing them.

In this context, a competence or a set of competences mean that a person puts into play a certain capacity or skill and performs a task, where he/she is able to demonstrate that he/she can do so in a way that allows evaluation of the level of achievement. Competences can be assessed and developed. This means that, normally, persons do not either possess or lack a competence in absolute terms, but command it to a varying degree, so that competences can be placed on a continuum and can be developed through exercise and education.

In the Tuning Project two different sets of competences were focused on: Firstly, those competences which are *subject-area related*. These are crucial for any degree and they are intimately related to specific knowledge of a field of study. They are referred to as academic-subject specific competences. These give identity and consistency to the particular degree programmes. Secondly, Tuning tried to identify shared attributes which could be general to any degree, and which are considered important by particular social groups (in this case former graduates and employers). These are certain attributes like the capacity to learn, the capacity for analysis and synthesis, etc, which are common to all or most of the degrees. In a changing society where demands tend to be in constant reformulation, these generic competences also become very important because they can offer more possibilities for employment.

In the design and redesign of educational programmes, it is crucial that the University takes into consideration the changing needs of society as well as present and future employment possibilities. While these generic competences need to be in balance with the subject related ones, for the development of study programmes and degrees, they are of vital importance.

This paper deals with the generic competences, since subject-related competences have been analyzed using different approaches according to each subject area by the relevant groups of experts. It explains the consultation carried out as an exercise in collective reflection on what the different social groups thought of the importance of each of the selected items and how it was felt that the universities were performing in their achievement.

In the context explained, two questionnaires were carried out. The first questionnaire tried to identify the *generic* competences and how they were valued, first by graduates and employers and then in the second questionnaire (first part), by academics.

Obviously the list of competences identified and which can be reflected upon is vast. The choice of a number of items to be included in a questionnaire is always partial and questionable and subject to debate are also the different classifications. In order to prepare the *questionnaire for graduates and employers* a review of over twenty studies, in the field of *generic competences*, was carried out. A list of 85 different competences was identified. They were regarded as relevant by institutions of Higher Education or companies. These items were categorized as instrumental, interpersonal and systemic. The following was taken as a working classification:

- *Instrumental Competences*: Those having an instrumental function. They include:
 - *Cognitive* abilities, capacity to understand and manipulate ideas and thoughts.
 - *Methodological* capacities to manipulate the environment: organizing time and strategies of learning, making decisions or solving problems.
 - *Technological* skills related to use of technological devices, computing and information management skills.
 - *Linguistic* skills such as oral and written communication or knowledge of a second language.
- *Interpersonal Competences*: Individual abilities relating to the capacity to express one's own feelings, critical and self-critical abilities. *Social skills* relating to interpersonal skills or team-work or the expression of social or ethical commitment. These tend to facilitate processes of social interaction and of co-operation
- *Systemic competences*: those skills and abilities concerning *whole systems*. They suppose a combination of understanding, sensibility and knowledge that allows one to see how the parts of a whole relate and come together. These capacities include the ability to plan changes so as to make improvements in whole systems and to design new systems. Systemic competences require as a base the prior acquisition of instrumental and interpersonal competences.

The distribution of the competences mentioned in the sources consulted (without considering the frequency of repetitions of the same competence), based on the aforementioned typology, was as follows:

- Instrumental Competences (38%)
- Interpersonal Competences (41%)
- Systemic Competences (21%)

Looking at the frequency and trying to amalgamate related concepts the percentage changed, as follows:

- Instrumental Competences (46%)
- Interpersonal Competences (22%)
- Systemic Competences (32%)

It was interesting to note that interpersonal competences represented the greatest percentage in terms of the number of different competences (41%). However, since they appeared

excessively varied and were not well-determined, when analyzed by frequency, this percentage went down to 22%. It seemed that instrumental competences were well delimited and repeated across many different approaches; for instance, technological competence (understood as use of a personal computer) or linguistic competence (oral and written communication).

On the other hand, interpersonal competences were very dispersed. They referred to personal aspects (self-concept, self-confidence, locus of control, etc.) or interpersonal aspects as varied as assertiveness, interpersonal communication, face-to-face style, social commitment, etc.

Thus, a draft of the first questionnaire for graduates and employers was prepared. This initial draft tried to propose a balanced representation of competences from all three groups: instrumental, interpersonal and systemic. The provisional questionnaire was discussed at the first Tuning meeting and some items were changed by the Tuning members. Some groups also added competences more directly related to their subject area. (Mathematics, History and Education Science.)

These suggestions were incorporated and the definitive questionnaire was prepared. Also incorporated, in both graduate and employer questionnaires, was a series of variables for identification considered important to the study.

The definitive questionnaires comprised the following 30 competences:

- *Instrumental competences*
 - Capacity for analysis and synthesis
 - Capacity for organisation and planning
 - Basic general knowledge
 - Grounding in basic knowledge of the profession
 - Oral and written communication in your native language
 - Knowledge of a second language
 - Elementary computing skills
 - Information management skills (ability to retrieve and analyze information from different sources)
 - Problem solving
 - Decision-making
- *Interpersonal competences*
 - Critical and self-critical abilities
 - Teamwork
 - Interpersonal skills
 - Ability to work in an interdisciplinary team
 - Ability to communicate with experts in other fields
 - Appreciation of diversity and multiculturality
 - Ability to work in an international context
 - Ethical commitment

- *Systemic competences*
 - Capacity for applying knowledge in practice
 - Research skills
 - Capacity to learn
 - Capacity to adapt to new situations
 - Capacity for generating new ideas (creativity)
 - Leadership
 - Understanding of cultures and customs of other countries
 - Ability to work autonomously
 - Project design and management
 - Initiative and entrepreneurial spirit
 - Concern for quality
 - Will to succeed

Other interesting competences could have been included, for example "teaching ability". This would perhaps have provided a relevant perspective in relation to a significant sector of employment, but being specific for a sector it could create noise in the system. The responses of employers might also have been affected by the use of the word "advanced" rather than "basic" in relation to knowledge or grounding in the profession.

The questionnaires were translated into the 11 official languages of the EU by Tuning members. Each of the Universities sent and received back the questionnaires from their graduates and employers and sent them on to University of Deusto where the questionnaires were processed.

Each of the Universities received its own data file by e-mail and the graphs for the total and for the different subject areas. By agreement and for confidentiality reasons, no graph or analysis was made at central level (of the Tuning Project in relation to individual universities. Each University was expected to do the institutional analysis and reflection at local level and bring this to the area group. Also, each University could compare its own data with the overall outcomes and with the subject area outcomes in order to draw its own conclusions and develop its own institutional strategies.

Procedure

The procedure requested of the coordinators at the participating universities, with respect to the selection of the different samples, was as follows:

Questionnaire for Graduates

- Every university participating in the study had to sample a total of *150 graduates*.
- The graduates selected were to have graduated within the last *3 to 5 years*.
- This criterion depended on the *number of graduates* that had graduated in this period, as well as the professional destinations of the graduates.

- If there were few graduates each year, the sample would include those graduating within the last 5 years. If there were a large number, then the sample would be limited to those graduating in the last 3 years. In those few cases where there were not enough graduates from the participating institution, graduates from other similar institutions, in the same country, were included.
- In relation to the professional destinations of graduates, (given that the study was most interested in graduates who already were working), where graduates entered the world of work rapidly after graduation, the sample could be chosen among those who had graduated in the last 3 years. Otherwise, when graduates took longer to join the world of work, it was recommended to select the sample from those who had graduated in the last 5 years.
- The criterion for selection of the 150 graduates was at random. It was recommended that if there existed an *association of graduates* with an updated database of addresses, the selection would be made by the above mentioned association.
- The corresponding university sent the questionnaires to its graduates with a letter in which, as well as presenting the questionnaire, it asked them to send it by return to the university within the space of 10 days.
- The questionnaire and the letter of introduction were sent along with a stamped addressed envelope for the return of the questionnaire.

Questionnaire for Employers

- Every university participating in the study has to gather information from 30 employers.
- The criterion of selection was that they should be organizations known by the university as those who employed its graduates, and/or organizations which in spite of not having proved that they had employed graduates of the university, seemed likely to be interesting places of work for these graduates. Within these guidelines, universities were free to select whatever employers they thought as appropriate. It has been suggested that a tighter control on the balance of different types of employers might have been exercised so as to obtain more representative results. However, this would have imposed a fixed framework on a very varied reality.
- The corresponding university sent the questionnaires to the employers with a letter which, beside presenting the questionnaire, asked them to return it within 10 days.
- The questionnaire and the letter of introduction were sent along with a stamped addressed envelope for the return of the questionnaire.

Questionnaire for Academics

- Every participating university was asked to gather information from, at least, 15 academics in the area in which the subject university was participating.
- Each university sent the academics a questionnaire in electronic form that they were asked to return within seven days.

Type of Response Requested

The questionnaires required two types of response:

1. Importance / Level of Achievement

2. Ranking the five competences considered most important

For each of the thirty competences, the respondents were asked to indicate:

- The *importance* of the competence, in his/her opinion, for work in their profession and
- the level of *achievement* of the competence that they estimated they have reached as a result of taking their degree programme.

To indicate this, respondents were asked to use a scale of 1 = none to 4 = strong.

Asking about both aspects (importance and level of achievement) responded to the interest in finding where their institution stood in terms of thirty competences arranged into four categories, represented in the diagram below:

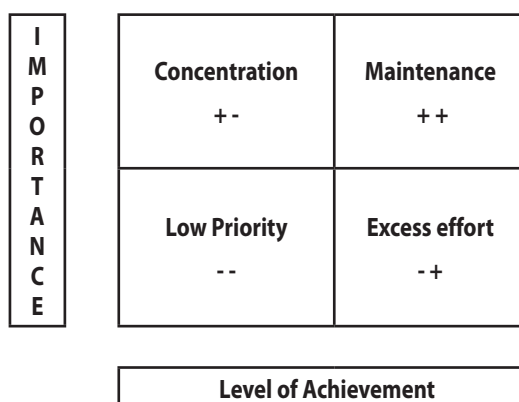


Diagram 1. Air (Martilla and James, 1997)

- *Concentration*: that is to say, competences that were considered very important but in which there was little achievement.
- *Low priority*: competences which were not considered very important and in which achievement was low.
- *Excess effort*: competences that were not considered very important but in which achievement was high.
- *Maintenance*: competences that were considered important and in which achievement was high.

The importance of the chart was that it may help reflection and discussion at institutional level finding out the weak and strong points which could help to build policy (a matter of choice for the institution); to strengthen the weaker parts or even to get stronger at the strong points. What was really crucial was to place the development of a system of consultation with the environment, and also to have the capacity to create systems which can help to develop joint strategies at the European level.

Ranking: As well as indicating the importance and level of achievement of each of the 30 competences, both groups (graduates and employers) were asked to indicate, in order, the five competences that they considered to be most important.

Commonly when people are asked to value the importance of different aspects of life, this valuation tends to be high. In general, the tendency is to value things as important, which can reasonably be considered as such, but without discriminating excessively between them. Being conscious that this could happen in the case of competences, it seemed suitable to request that respondents would choose the five most important competences and rank them in order of importance. These two pieces of information, importance and ranking, seemed relevant for the work.

The questionnaire sent to *academics*, was divided into two parts: The first part related to *generic competences*. The objective was to obtain a third perspective on competences to compare with those of graduates and employers. The content was based on the results obtained in the study of graduates and employers. Depending on this information, it was observed that there was a high level of agreement between graduates and employers on the 11 competences considered as most important by both groups. These 11 competences were included in the questionnaire sent to academics, as well as 6 others also considered as very important by graduates and employers. Academics were asked to rank these 17 competences in order of importance, in their opinion.

The second part of the questionnaire dealt with *specific, subject-related competences*. The objective of this part was to find the first response, from a broader base of academics from the relevant areas, to the work done by each of the groups of Tuning experts trying to identify subject-related competences and to relate them to either first or second cycle of studies in their particular field.

The difficulty of this task was clearly understood by the Tuning members. Equally clear was the understanding that what was at stake was the development of reference points which, understood only as such and in a dynamic framework, could be of vital importance in the development of the European HE Area.

The content of the second part of the academics' questionnaire was prepared by the Tuning working groups of experts in the different areas. Despite the fact that the questionnaire for each area was different, the way of responding was common. Respondents were asked, for each of the competences, to gauge the level of importance that it had, in their opinion, in both the first and second cycle.

The aim of both questionnaires was, as explained above, that of initiating joint reflection, so its main achievement needs to be considered as provoking reflection and debate. It is also important to note that the processes were conceived as having, as the bottom line of the joint discussion, the reflection that each of the Tuning participants brought to the group from his or her own institution, where the questionnaire results had the best context for interpretation. This objective affected the type and form of data collected.

Participants in the questionnaire

A total of 101 out of a total of 105 university departments participating in the Tuning Project took part in the consultation¹. The choice of universities in the Tuning Project was a very com-

plex process where the interest, the size of the country and the criteria of the local conference of Rectors had a place.

The data was first meant to be analyzed at the level of the institution, to provide the maximum degree of meaning. Also the two indicators seemed different in this context. While the opinion on achievement seems very important at institutional level, particularly in relation to the graduates, it can be regarded more as a perception as it relates to aggregate data or in relation to the employers. In relation to importance it may take to reflect the degree of importance they attached to a particular item in terms of its relation to work or development.

Specifically, seven subject areas took part in the consultation: Business, Education Sciences, Earth Sciences, History, Mathematics, Physics, and Chemistry, in relation to graduates, employers and academics.

In each of these areas the following number of universities were invited to participate:

- Business: 15 universities, of which 14 participated
- Geology : 14 universities, all of them took part
- Mathematics: 15 universities, of which 13 participated
- Physics: 14 universities, all of them took part
- Education: 15 universities, of which 14 participated
- Chemistry: 15 universities, of which 14 participated

The data relating to the sample participating in the study are presented below.

Table 1

	Graduates		Employers		Academics	
	N	%	N	%	N	%
Business	921	17.8	153	16.2	153	15.3
Geology	656	12.7	138	14.6	145	14.5
History	800	15.4	149	15.8	221	22.1
Mathematics	662	12.8	122	12.9	122	12.2
Physics	635	12.3	85	9.0	121	12.1
Education Sciences	897	17.3	201	21.3	134	13.4
Chemistry	612	11.8	96	10.2	102	10.2
Total	5183	100.0	944	100.0	998	100.0

Although the intention of the consultation was to initiate a joint dialogue with social groups and the debates followed at institutional and subject area level could be considered the best results, the valuable work of 101 universities and the volume of data collected (5,183 question-

1 In addition, for the questionnaire for Academics, the history thematic network (Cliohnet) also participated. Also in some, very limited instances, academics or graduates of other institutions giving similar degrees were consulted.

naires from graduates, 944 from employers and 998 from academics) deserve an attempt at some treatment for further reflection.

Methodology

The sample design was clustered, as respondents were clustered within Universities. Therefore assumptions of simple random sampling may not be valid as respondents were not strictly independent from each other. At the same time, Universities showed some cluster effect at country level.

Clustered design is widely used in research and does not represent by itself a source of bias. Cluster sampling affects the survey sampling error of any estimate produced. The sampling error is increased depending on differences in measured items among clusters.

Based on data, this design effect due to cluster sampling may be estimated by intra-cluster correlation: high intra-cluster correlation indicates that differences among clusters are high, and therefore increases the survey sampling error. It should be noted that low intra-cluster correlation in any item, near to zero, indicates that a simple random sample would have produced similar results.

In relation to the results of the Tuning Questionnaire on generic competences simple random sampling estimates and procedures were avoided in either univariate or multivariate analysis. All estimates and conclusions take into account the clustered nature of data at both University and country level through multilevel modelling.

It was regarded as the most appropriate approach since multilevel models take into account the clustered structure of data (i.e. does not assume that observations are independent as in simple random sampling). These models have been widely used on educational data as their clustered structure.

At the same time multilevel modelling allows simultaneous modelling of individual and cluster level differences providing adequate estimates of standard errors and making appropriate any inference at both individual and cluster level.

In this context clusters are not regarded as a fixed number of categories of a explanatory variable (i.e. the list of selected universities as a fixed number of categories) but it considers that the selected cluster belong to a population of clusters. At the same time, it yields better estimates at individual level for groups with few observations.

Three different types of variables were analyzed:

- Importance items: 30 competences rated on importance by respondents (Graduates and Employers)
- Achievement items: 30 competences rated based on achievement (Graduates and Employers)
- Ranking: based on the ranking of the five most important competences provided by graduates and employers, a new variable was created for each competence. For each respondent the corresponding competence was assigned five points if it was the first selected competence, four if it was the second one, etc... and finally one point if it was selected in the fifth place. If the competence was not chosen by the respondent, zero points were

assigned. For the academics, who had to rank a longer list of seventeen competences out of the previous thirty rated by graduates and employers, this ranking was created using a similar transformation applied to a seventeen points scale: seventeen was assigned if the competence was chosen first, sixteen to the second competence, etc.

Results

Graduates

Intra-cluster correlations indicated to what extent universities were different from each other and the effect of clustered observations on sampling errors. The highest intra-cluster correlation was for *Knowledge of a second language* both as importance (0,2979) and achievement (0,2817). The next highest two were *Elementary computing skills*-Achievement (0,2413) and *Ethical commitment*-Importance (0,1853). From the list of items regarding importance, 21 out of 30 showed intra-cluster correlations lower than 0.1 and from the list of items regarding achievement the proportion went to 10 out from 30. Results seemed consistent: when graduates rated universities, they seemed to be more in terms of achievement than importance.

Means for all items were calculated taking into account the intra-cluster correlation using multilevel models for each item with no explanatory variables and allowing a random intercept for each level. At this stage three levels were considered: country, university and final respondent. Therefore the intercept in the model yielded the mean for each item with adequate estimates of the sampling error for each estimate.

Employers

For the data collected from employers a similar analysis was performed. Multilevel modelling showed that the country effect – employers belonging to same country- seemed stronger than the university effect -employers belonging to same university in the data collection process- compared to graduates as it would be expected. Means for all items were again calculated using multilevel models as it was done before.

Comparing Graduates with Employers

Importance ratings for Graduates and Employers were compared using again multilevel modelling adding a parameter to the model accounting for the difference between both groups. Thirteen items showed a significant difference ($\alpha < 0,05$). The highest difference corresponded to *Ethical commitment* with Employers rating this item higher than graduates.

It is interesting to note that employers rate *Ability to work in an interdisciplinary team* significantly higher than graduates while in the case of *Ability to work autonomously* the case is just the opposite graduates rating this item higher than employers. These results are shown in Table 2.

If the rankings of importance items obtained from each group were compared some interesting patterns were observed. This comparison was obtained joining Tables 3 and 6 as shown in Table 3.

Table 2. Significant differences in importance items. Employers vs. Graduates

Label	Description		Difference Employers vs. Graduates	%
imp28	Ethical commitment	Employers higher than Graduates	0.3372	0.00%
imp20	Ability to work in an interdisciplinary team		0.1463	0.00%
imp27	Initiative and entrepreneurial spirit		0.0979	0.07%
imp17	Teamwork		0.0957	0.04%
imp29	Concern for quality		0.0838	0.11%
imp25	Ability to work autonomously	Graduates higher than Employers	-0.1591	0.00%
imp8	Elementary computing skills		-0.1559	0.00%
imp9	Research skills		-0.1104	0.09%
imp3	Capacity for organisation and planning		-0.0900	0.04%
imp5	Grounding in basic knowledge of the profession		-0.0822	0.62%
imp11	Information management skills		-0.0739	0.35%
imp15	Problem solving		-0.0554	1.80%
imp16	Decision-making		-0.0552	3.51%

The correlation between both rankings was quite strong (Spearman correlation = 0.899) and showed some common groups of items at both extremes of the ranking. In order to create a combined ranking, groups of items were created for both graduates and employers so that any pair of items in the same group showed non significant difference in the importance rating mean. In this manner ten groups were created in the graduates ranking and seven in the employers ranking. Each item received the mean rank of the group in which it was included and finally the mean was calculated for each item using the mean rank of the graduates list and the mean rank of the employers list. This procedure created a ranking of eighteen levels where some of the items were tied (Table 4) which perhaps seemed like a more adequate manner to present final results when such groups were to be compared.

Table 3. Importance items ranking. Employers vs. Graduates

Graduates		Employers	
Label	Description	Label	Description
imp1	Capacity for analysis and synthesis	imp10	Capacity to learn
imp15	Problem solving	imp2	Capacity for applying knowledge in practice
imp10	Capacity to learn	imp1	Capacity for analysis and synthesis
imp25	Ability to work autonomously	imp15	Problem solving
imp11	Information management skills	imp29	Concern for quality
imp2	Capacity for applying knowledge in practice	imp17	Teamwork
imp8	Elementary computing skills	imp13	Capacity to adapt to new situations
imp13	Capacity to adapt to new situations	imp11	Information management skills
imp18	Interpersonal skills	imp18	Interpersonal skills
imp3	Capacity for organisation and planning	imp14	Capacity for generating new ideas (creativity)
imp29	Concern for quality	imp6	Oral and written communication
imp6	Oral and written communication	imp25	Ability to work autonomously
imp30	Will to succeed	imp3	Capacity for organisation and planning
imp17	Teamwork	imp30	Will to succeed
imp16	Decision-making	imp16	Decision-making
imp14	Capacity for generating new ideas (creativity)	imp12	Critical and self-critical abilities
imp12	Critical and self-critical abilities	imp8	Elementary computing skills
imp21	Ability to communicate with experts in other fields	imp20	Ability to work in an interdisciplinary team
imp5	Grounding in basic knowledge of the profession	imp27	Initiative and entrepreneurial spirit
imp4	Basic general knowledge	imp21	Ability to communicate with experts in other fields
imp20	Ability to work in an interdisciplinary team	imp4	Basic general knowledge
imp27	Initiative and entrepreneurial spirit	imp28	Ethical commitment
imp26	Project design and management	imp5	Grounding in basic knowledge of the profession
imp7	Knowledge of a second language	imp26	Project design and management
imp9	Research skills	imp19	Leadership
imp23	Ability to work in an international context	imp7	Knowledge of a second language
imp19	Leadership	imp23	Ability to work in an international context
imp28	Ethical commitment	imp22	Appreciation of diversity and multiculturalism
imp22	Appreciation of diversity and multiculturalism	imp9	Research skills
imp24	Understanding of cultures and customs of other c.	imp24	Understanding of cultures and customs of other c.

Table 4. Combined ranking. Graduates & Employers

Label	Description	Combined ranking
imp1	Capacity for analysis and synthesis	1
imp10	Capacity to learn	
imp15	Problem solving	
imp2	Capacity for applying knowledge in practice	2
imp13	Capacity to adapt to new situations	3
imp29	Concern for quality	
imp11	Information management skills	4
imp25	Ability to work autonomously	
imp17	Teamwork	5
imp3	Capacity for organisation and planning	6
imp6	Oral and written communication in your native language	
imp18	Interpersonal skills	
imp30	Will to succeed	
imp14	Capacity for generating new ideas (creativity)	7
imp8	Elementary computing skills	8
imp16	Decision-making	9
imp12	Critical and self-critical abilities	10
imp20	Ability to work in an interdisciplinary team	11
imp27	Initiative and entrepreneurial spirit	
imp4	Basic general knowledge	12
imp5	Grounding in basic knowledge of the profession	
imp21	Ability to communicate with experts in other fields	
imp28	Ethical commitment	13
imp7	Knowledge of a second language	14
imp26	Project design and management	
imp9	Research skills	15
imp19	Leadership	
imp23	Ability to work in an international context	16
imp22	Appreciation of diversity and multiculturality	17
imp24	Understanding of cultures and customs of other countries	18

Academics

The academics were asked to rank seventeen items selected from the thirty item list given to graduates and employers. Some respondents reported that it was difficult to give a specific ranking to certain items as they seemed equally important. The adequacy of ranking versus weighting in this context is debatable and the difficulty has been well understood. This is often the case when a long list of items has to be ranked but it is clear that given that all academics faced this same difficulty – and therefore some of the positions in the ranking were given

somehow at random within a specific range- aggregate results should show this same close positions in the final ranking.

A numerical variable was created for each item assigning seventeen points if the item was ranked in the first place, sixteen if it was ranked in the second place and so on. The mean of this variable for each item was estimated again by multilevel modelling as it is shown in Table 5. This displays the items in descending order and therefore creating again a ranking of items. Given that the order was given just by the estimation, the mean differences between items were analyzed in order to find if differences were significant. In this manner eight different groups of items were created so that any possible pair of means in the group showed no significant difference. Within each group the ranking of items could be considered interchangeable to some extent.

Table 5. Academics

Label	Description	Mean	StdErr	Item groups
imp4	Basic general knowledge	12.87	0.1906	1
imp1	Capacity for analysis and synthesis	12.70	0.3168	
imp10	Capacity to learn	12.23	0.2313	2
imp14	Capacity for generating new ideas (creativity)	11.47	0.1907	3
imp2	Capacity for applying knowledge in practice	11.00	0.3266	
imp12	Critical and self-critical abilities	10.14	0.3035	4
imp13	Capacity to adapt to new situations	9.88	0.2894	
imp5	Grounding in basic knowledge of the profession	9.01	0.3685	
imp6	Oral and written communication in your native language	8.81	0.2821	5
imp20	Ability to work in an interdisciplinary team	8.51	0.1829	
imp9	Research skills	7.67	0.3107	6
imp16	Decision-making	7.25	0.2389	7
imp28	Ethical commitment	7.01	0.2844	
imp18	Interpersonal skills	7.00	0.3124	
imp7	Knowledge of a second language	6.90	0.3239	
imp8	Elementary computing skills	5.64	0.1816	8
imp22	Appreciation of diversity and multiculturality	5.30	0.2681	

In order to compare the academics ranking to the previous ones, the thirteen items not present in the academics list were deleted from the graduates, employers and combined graduates-employers rankings and these rankings were reconstructed using seventeen ordered positions. The result is shown in Table 6.

Table 6. Rankings

Label	Description	ACADEMICS	GRADUATES	EMPLOYERS	GRAD&EMPL
imp1	Capacity for analysis and synthesis	2	1	3	1
imp2	Capacity for applying knowledge in practice	5	3	2	3
imp4	Basic general knowledge	1	12	12	12
imp5	Grounding in basic knowledge of the profession	8	11	14	13
imp6	Oral and written communication in your native language	9	7	7	5
imp7	Knowledge of a second language	15	14	15	15
imp8	Elementary computing skills	16	4	10	8
imp9	Research skills	11	15	17	16
imp10	Capacity to learn	3	2	1	2
imp12	Critical and self-critical abilities	6	10	9	10
imp13	Capacity to adapt to new situations	7	5	4	4
imp14	Capacity for generating new ideas (creativity)	4	9	6	7
imp16	Decision-making	12	8	8	9
imp18	Interpersonal skills	14	6	5	6
imp20	Ability to work in an interdisciplinary team	10	13	11	11
imp22	Appreciation of diversity and multiculturality	17	17	16	17
imp28	Ethical commitment	13	16	13	14

The most striking difference was that academics ranked Basic general knowledge in the first position of the list (although it should be remembered that it showed no significant difference compared to the second ranked: Capacity for analysis and synthesis) while both graduates and employers ranked this same item in the twelfth position.

Spearman correlations are presented in Table 7 showing that employers and graduates rankings were more similar among them than the academics ranking. Compared to graduates, most relevant differences were: Elementary computing competences (fourth position for graduates and sixteenth for academics) and Interpersonal competences (sixth for graduates and fourteenth for academics). Compared to employers, most relevant difference was again Interpersonal competences (fifth for employers and fourteenth for academics).

Table 7. Spearman correlations

Academics	1			
Graduates	0.45588	1		
Employers	0.54902	0.89951	1	
Graduates & Employers	0.55147	0.95098	0.97304	1

Country Effects

Multilevel modelling allows the estimation of what could be considered a country effect, this is, a measure of the effect of the country as a whole on respondents. This effect was measured on the thirty importance items rated by graduates. The country effect was classified in three groups: strong effect (there are strong differences between countries), mild effect (the differences are weaker) and no effect (all countries seem to be equal). This classification is shown the following table.

Table 8. Country effects

Label	Description	
imp7	Knowledge of a second language	STRONG
imp25	Ability to work autonomously	
imp30	Will to succeed	
imp2	Capacity for applying knowledge in practice	
imp29	Concern for quality	
imp27	Initiative and entrepreneurial spirit	
imp20	Ability to work in an interdisciplinary team	
imp9	Research skills	MILD
imp4	Basic general knowledge	
imp14	Capacity for generating new ideas (creativity)	
imp28	Ethical commitment	
imp26	Project design and management	
imp22	Appreciation of diversity and multiculturality	
imp13	Capacity to adapt to new situations	
imp12	Critical and self-critical abilities	NO EFFECT
imp5	Grounding in basic knowledge of the profession	
imp19	Leadership	
imp17	Teamwork	
imp16	Decision-making	
imp18	Interpersonal skills	
imp21	Ability to communicate with experts in other fields	
imp15	Problem solving	
imp10	Capacity to learn	
imp1	Capacity for analysis and synthesis	
imp6	Oral and written communication in your native language	
imp11	Information management skills	
imp23	Ability to work in an international context	
imp3	Capacity for organisation and planning	
imp8	Elementary computing skills	
imp24	Understanding of cultures and customs of other countries	

Some Conclusions and Open Questions

One of the initial objectives of the Tuning Project was to promote debate and reflection on competences at the *European level*, from a *university perspective* and from a *subject area approach*, offering a *way forward*. This level of reflection and the development of competences in the definition and development of university degrees in Europe was varied according to traditions and educational systems.

It is important to note that in Tuning competences are always linked with knowledge since it is understood that they can not be developed without learning in some field or discipline. In this context and from the work and the debate done by the Tuning members, a number of conclusions can be drawn, while significant questions remain open to be dealt with in future work.

1. With regard to the *relevance of the use of competences*:

- The development of competences fits in well with *the paradigm of primarily student-centred education*. It emphasizes that the student, the learner is the focus, and thus brings into discussion the changing role of the teacher. This could be regarded as moving towards more of an accompanying role, guiding learning towards the attainment of particular well-defined objectives. It consequently affects the approach to educational activities and the organization of learning, which is shifting to being guided by what the learner needs to achieve. It also affects assessment in terms of shifting from input to output and to the processes and the contexts of the learner. However, how the competences were to be worked, realized and assessed and the impact of this change, both at individual level and at the level of European university structures, required further reflection and debate.
- The *definition of academic and professional profiles* in degrees is intimately linked with the identification and development of competences towards their attainment throughout the curricula. To reach this aim, the work of isolated academics is not sufficient, it needs to be approached in a transversal way through the curricula of a particular degree program.
- *Transparency and quality* in academic and professional profiles are major assets in relation to both employability and citizenship, and the enhancement of quality and consistency as a joint effort should be a priority for the European Institutions. The definition of academic and professional profiles and the development of the fields of required competences, add quality in terms of focus and transparency, purpose, processes and outcomes. In this context, the use of the language of competences at the level of the Diploma Supplement would be a quality step along both fronts.
- The use of competences (including knowledge) and the *emphasis on outputs adds another important dimension* to balance the weight given to the length of study programmes. This is particularly relevant for lifelong learning.
- In relation to the creation of the *European Higher Education Area*, the joint reflection, debate and attempts to define subject area competences as dynamic reference points could be of crucial importance for the development of easily readable and comparable degrees and for the enhancement of mobility, not only of students, but particularly of graduates and professionals.

2. In relation to the practice of *consultation with social groups* before elaboration or reformulation of degree programmes, the Tuning members have observed a variation among the European Universities in the levels at which this practice is carried out. Also they observe a significant variety in the methods used for this consultation. In this respect, the Tuning members agree that the practice of consulting relevant social and professional groups is crucial and should be encouraged using the most appropriate form and manner in each case.
 - In the case of Tuning, the groups consulted were relevant groups: *graduates, employers, and academics*. Obviously, other groups could also have been consulted.
 - The Tuning members also agree that *joint reflection from the Universities based on updated data* is important in the development of adequate degrees. They recognize that students need and demand qualifications which they can use effectively for the purpose of their studies and careers all over Europe. These demands are not only a reflection on what local social and professional groups value and demand from their programmes but also the perspective of broader trends taking place at the European level.
3. It is important to remember that *subject-related competences are crucial* for identification of degrees, for comparability and for the definition of first, second and third degree cycles. These competences have been analyzed individually by the subject area groups. The identification and discussion of a set of subject-related competences for the first and second cycle could be considered one of the major contributions of the project towards the development of European points of reference.
4. With regard to *generic competences* in a changing society where professional profiles need to be well defined while keeping a dimension of openness to change and adaptation, some messages from graduates and employers to European Universities can be identified:
 - In relation to the *importance* given to different competences, the messages from graduates and employers were of crucial relevance:
 - In fact, one of the most striking results of the questionnaire was the very high degree of correlation between the opinion of graduates and employers in relation to the importance and rank given to the different competences. These two groups were of the opinion that the most important competences to be developed were: capacity for analysis and synthesis, capacity to learn, problem solving, capacity for applying knowledge in practice, capacity to adapt to new situations, concern for quality, information management skills, ability to work autonomously and teamwork.
 - Looking at the other end of the scale (least important competences), there appeared: understanding of cultures and customs of other countries, appreciation of diversity and multiculturality, ability to work in an international context, leadership, research skills, project design and management, and knowledge of a second language. One striking aspect was the concentration of the "international" competences in the lower part of the scale with respect to importance. Perhaps these are emerging issues and the importance will come about in the future.

- The scale of appreciation of the graduates and employers also had a high degree of coincidence with the ranking by the *academics* with a few exceptions:
 - The first exception is the rank given to *basic general knowledge*, which for the graduates and employers showed a level of 12 out of 18 whereas for the academics it appeared in first place. One point to note is that responses to questions involving the word *basic* may depend on the interpretation given to this word, which could change depending on the inclusion of questions referring to advanced knowledge.
 - The second item of difference was *elementary computing skills*. This varied between groups, being considered more important by graduates, less by employers and least by academics.
 - The third was *interpersonal skills* with much higher importance attached to it by graduates and employers (level 6) than by academics where it appeared in a considerably lower position. In general, all the interpersonal skills tended to rank lower for academics than for graduates and employers. The majority of the competences which appeared at the top of the scale both in terms of importance and achievement were instrumental and systemic.
- In relation to *achievement* in terms of the competences that the universities were considered to develop at the highest level, again there was a high level of correlation between the employers and the graduates. However, in this respect reference is only made to the graduates since it is considered that these would have the most accurate perspective on the level of achievement for a particular university.
 - The items which appear highest in the scale, in the opinion of the graduates were: capacity to learn, basic general knowledge, ability to work autonomously, capacity for analysis and synthesis, information management skills, research skills, problem solving, concern for quality and will to succeed. Six of these items coincided with those that graduates and employers considered important and ranked highest in the scale. The remaining reflect the tasks which the universities have traditionally been performing for centuries.
 - Looking at the bottom of the scale, the competences to be found there were: leadership, understanding of cultures and customs of other countries, knowledge of a second language, ability to communicate with experts in other fields, ability to work in an international context, and ability to work in an interdisciplinary team. It is remarkable that these competences all appear near the bottom of the table for importance, so again a high degree of consistency.

Finally, with regard to the variation of ranking and the impact by *country*, there were 13 items where there was no variation at all. Among them there were three of the competences which appeared at the top of scale and also two of those at the bottom. Seven items showed a significant country effect. They seem to relate to educational traditions and cultural values.

However, in relation to the issue of generic skills, several questions remain open. These include: is there a core of generic skills which may be identified as essential for each level? How many could be developed in a degree programme? Should the choice of competences be based on

the different degrees or should they be characterised by institutional choices and institutional strengths? Who should be responsible for them? Which are the most adequate methods for developing them through the curricula? What is the rate of change developing in the five years gap since the first and the last graduates would have finished their degree programmes. Are there generic competences which relate to emerging needs and show the importance of looking at the future and try to anticipate developments, etc, etc.

Other more general *open questions* for further study and reflection relate to employment potential for graduates, the gaps between importance and achievement in a more detailed way and starting from closer to the institutional level, the emerging needs of society, and future demands, and the changing nature of learning as it needs to take place in a variety of contexts.

These are only some conclusions of a joint reflection at European level on the potential that competences have in the creation of the European Higher Education Area and in the enhancement of Higher Education as a whole.

Discussion

- Architectural Education, the associated curricula in Europe and their definition in terms of competences.
- Schools' definition of the competences and skills associated with the profile of the graduate they wish to deliver.
- Definition of these competences.
- Consequences and impact of the definition of competences and skills of your graduates on your school curriculum.

Christian Kuhn, Vienna, AUSTRIA

I am afraid that I found your presentation very abstract, and I would be grateful if you could add some substance to the question of competences. You are probably aware of the OECD project undertaken three years ago, which was an attempt to define something substantial to make a basis for discussion. If I remember correctly, there were three simple sentences that were defined as the three core competences of the future. Of course, there is a lot more to be done and it is interesting to hear about the process, but I would be very curious to hear something more about the content.

Julia Gonsales, Bilbao, SPAIN

It is always very difficult to know what people need or are interested in. In terms of competences, I think that the easiest definition would be that a person knows what he is capable of understanding and capable of doing. I think that the concept of competences has been incorporated into the Qualifications Framework in order to define levels; and, as I explained to you, the Tuning and Qualifications Framework are very much connected. In this case, the five competences that are singled out to give specific levels are found at the BA level, the MA level and the PhD level, and we have been talking a lot about what makes these degrees separate or specific. Then there is the definition of different levels in what someone is supposed to know and be able to understand. For example, at the BA level, it would be very much a question of how someone handles the common knowledge in their field. Then there is the level of competence in terms of the capacity to judge in relation to a particular issue, and another element would be the capacity to bring something from theory into practice. The fourth element or fourth competence would be the capacity to communicate and, at another level, with whom one is able to communicate, whether with their own people or with people outside their group. And, finally, openness to further levels and the capacity to continue learning.

I do not know whether I am answering your question or whether I am moving away from it, because it is a very complicated discussion. If you like, I can refer you to the competences that have been defined, if this would clarify things. I will start with generic competences. We made a consultation study. We sent questionnaires to all the stakeholders and carried out a huge study. Now we have received 22,000 answers from Latin America and 7,000 from Europe. We targeted different groups in society and asked them what competences they regard as the most important and I wish I had the study with me, because my colleague who has been doing all the statistics came up with some very interesting results. One of the things we discovered was that the majority of employers, in Latin America as well as in Europe, have very similar criteria

as to which competences they require most. For example, there is the capacity to analyse and synthesise things, which is crucial, the capacity to learn, the capacity to work in teams, the capacity to bring something from theory into practice, and the capacity to work in groups but to be capable of doing work on your own as well. Another thing that we found is that the outcomes for graduates were very similar to those for employers. So this image of what makes people employable seems to be quite similar everywhere. The academics differ a little bit in some cases: for instance, we found that the emphasis on knowledge is rated much higher by academics than it is by employers or by the other target groups. I could give you some of the results to put on the Web page, if you like, so you could see a little bit more of the substance of what we have been dealing with.

So to conclude, what we discovered is that the questionnaires gave us this possibility to discuss and to agree and disagree about concrete things, because very often, as you say, we talk in abstract terms, but if we have as basis that a particular competence is more important than another, or not, then that is something that we can discuss and think about.

Richard Foque, Antwerp, BELGIUM

Thank you. Of course all these kinds of frameworks and systems look beautiful, and intellectually, of course, they are very appealing; but, as we all know, systems and frameworks are useless unless they are filled in. I was looking at those four identical glasses and thinking that if we fill them, one with vinegar, one with water, one with beer and one with wine, they will still be the same glasses but it will be very difficult to compare them because of the content. So how would you comment on that, if you see the analogy in what I am saying?

Julia Gonsales, Bilbao, SPAIN

I see the analogy you are making and I understand your point. I also see the analogy of the cooperation framework, and if we go a little bit further we see that this is what is happening at the European level. You can call it confusing, but what we are trying to create is transparency. Perhaps we have created the opposite, but I agree with you. I think that the idea of the Qualifications Framework is very much a broad concept, and in fact the Tuning people think of it in even broader and more abstract terms. Because in the long run, in Tuning, the historians or the mathematicians or the physicists have come up with a list of things that they think are relevant to their topic, whereas in the Qualifications Framework, it is still a very broad concept. This is good on the one hand, because it gives you a hanger where you can put things; but some of the Tuning members find it too broad. And if you look at it, you understand that at the lowest level we would have the tuning reference point for higher education, and then you would have a list, a very concrete list, of competences for each topic, for each degree, for each subject, which would give the identity to this subject. The lawyers are making their own list: they are debating what should be the specific characteristics of being a lawyer, of being a judge, of being a notary, all of which have different competences attached to them, so the profile is a little bit different even though they all study law and the legal codes. The bottom line would be the tuning reference point with the list of competences that the people concerned agree are the crucial ones, as you will discuss later for architecture.

Then there is the Sectorial Qualifications Framework. I do not think architecture will have any sectorial qualifications, except maybe in landscape architecture; but I do not know. The first such meeting that is going to take place is in the area of medicine and health, which includes

doctors, radiographers, nurses, physiotherapists, occupational therapists, and so on, and they are all going to come together to create their own framework with all the competences they think are necessary – and this is the second step. They have asked Tuning to take part in it because it is a step further along the lines of the discipline.

Then there is the National Qualifications Framework, where each country must implement their own Qualifications Framework. This is the broader aspect of the five points that I was talking about. Then there is the general European all-encompassing Qualifications Framework for the whole of Europe, where they are supposed to describe what a BA is, what an MA is and what a PhD is. And then Tuning would say that the competences typical for a business degree at the BA level are one, two, three, and they would give a list of competences for the BA level. Then, for example, they might come to the conclusion that at the MA level they are not going to give any general competences because it depends on the specialisation. So this is an example of the way this would progress.

Finally, there is the European Qualifications Framework for Life-long Learning, which would cover what kinds of things are expected during the whole period from kindergarten to university, level by level. Now we are talking about the Pisa study, and there seems to be some kind of agreement on the levels in the different countries, but whether we agree or not that is a different story. But there is this tendency to continue learning throughout one's life, in which case you know higher education has a place. This is the way Europe is moving, with reference points at the level of subjects or at the level of degrees. At the level of degrees, it has been done by the Ministers; at the level of subjects, it is done by academics.

Per Olaf Fjeld, Oslo, NORWAY

I have a question. You talked about the system of tuning, and within the idea of the system there is also the capacity to learn and teach in a certain way. Could you, then, within the idea of the system, identify certain ways in which to approach it? Has there been any scientific research done in advance that defines the way in which we can bring the material forward in the best way?

Julia Gonsales, Bilbao, SPAIN

Yes, we have two groups doing research on this, and there is a project underway on the whole issue of competence-based learning supported by the European Commission. And in fact this is the idea, that we need to go a little bit ahead of things.

Earlier, when your colleague asked me whether we have designed a system of teaching, I said no; discovering methods of teaching and learning is only one of the elements in the jigsaw puzzle. It is clear that we need to think about it. I would not say that there is a system. I mean, there is a system for Tuning, but I do not think that there is any one system of teaching. If I gave you to understand that, I apologise. I do not think that there is one system of teaching: I think that there is a variety of systems that could lead to the right approach to competences. What I maintain is that teaching content is different from teaching competences. I do not feel that we should tell people exactly how they should be teaching: what we have to do is to explore different paths. In a student-centred learning process, one of the things that we all agreed upon was the variety of approaches. We had a long discussion about whether we should use the word 'method' – you cannot imagine, it took us I don't know how many sessions to decide whether we should talk about teaching methods or approaches to teaching. So I do not want

to give you the idea that there is one way of teaching. I think that we ought to bring in and combine lots of approaches or methods in order to come up with a format by which a person can learn. It is very difficult to know, and it would be up to the teacher to think which is the best possible method or approach to teach a student in the time he or she is allowed. I think the real question is, if the student has to learn particular competences, what is the best way for him to do so?

Are there any other questions?

Adalberto Del Bo, Milan, ITALY

Is there a general definition coming from the Bologna Declaration of the competences at the BA level?

Julia Gonsales, Bilbao, SPAIN

Not that I know of. In fact, the people from the Qualifications Framework discussed it with us and took our definition of competence. I think that the simplest definition is the capacity to know and be able to do a number of things. You know we have a long Glossary, which also took a long time, and the Qualifications Framework people created their own Glossary and then we had a long discussion about the definitions. For example, one thing we discussed at length was the difference between competences and learning outcomes. We concluded that a learning outcome could be a very simple step – it could be the end product or the end product after a particular period of learning – while a competence is something that gradually grows until you reach a particular level. For example, going back to teaching, a learning outcome could be the capacity to lead groups. This is an outcome, a learning outcome, whereas the competence in this case would be teamwork, and you could have different levels of competence. So, in a way, the outcomes are what we as educators set as goals of the programmes and the competences are what the students have to develop in terms of getting into their professional profile. However, there is a whole chapter on competence in our first book, which you could find on the Internet, and in Vol. 2 there is a second definition in the foreword. They are both in our Web page, and we could also send you some copies of the books in English if you would like. They are the products of huge discussions and agreements.

Herman Neuckermans, Leuven, BELGIUM

I have some comments to make. First, I would like to say that we have not been teaching for so long like headless chickens, by which I mean that we did not just give content without the ambition to have competences. And in response to what you said about the fact that we are not very well aware of what is happening in architecture, I would like to say that one of the main characteristics of architectural education is that it is design-oriented, where one really learns by doing.

The other thing is, and it may just be the way it was presented, but sometimes we have the impression that Europe is putting a lot of weight on our shoulders, so that in the end the whole thing begins feel like a burden; and I think that people have to be balanced between those who think about what others have to do and those who actually do. For instance, I know that many schools suffer from the lack of means to do the job. So I would like to see a good balance between all the things we have to do and the means we receive to do them with. I have been

chairing visitation networks, and I think that I have the full framework in perspective and I am happy with it; however, I do not think that it should overshadow the real question of the core competences of this specific domain. Personally, I do not see how the framework in place at the moment can be improved. As things stand, in assessing a school you ask for the subjects, you ask for the competences it wishes to give, you ask for a description of these different levels of knowing things, from just knowing to learning to learn, interpreted for the BA and MA. So my question is, what are you adding to what is already happening in national qualifications agencies? Because, I do not know whether this was deliberate, but you talked about frameworks: don't these agencies use frameworks? I am afraid that it is not clear to me.

Julia Gonsales, Bilbao, SPAIN

Are you from the UK?

Herman Neuckermans, Leuven, BELGIUM

No, I am from Belgium.

Julia Gonsales, Bilbao, SPAIN

I ask because some countries have already implemented the Qualifications Framework. At the moment, in Europe, you find a lot of different situations. Some countries already have the frameworks at a national level and some do not. The one thing is vertical and the other is horizontal. What we are doing is horizontal in terms of theme, and if you like what the national qualifications are doing is qualification at the national level. The idea is that they are meant to be complementary, so much so that the person who wrote the Qualifications Framework, a huge paper, is a Tuning member, and we have all been back and forth to the Committee. So it is not two languages, it is one language; and how you get to the top, whether through the Qualifications Framework or through Tuning, does not matter, they are meant to be the same. Tuning deals with domains, and lots of countries do not have a qualifications framework but they do have domains, one of which is architecture; and in many cases at the one level they have domains but not a national qualification framework. So in a way, we are discovering that the language of tuning is very much international. So my answer to you is that they are supposed to be complementary, they are supposed to be backing each other up. Thank you very much for your questions; they were very useful, and I could see your point about the means and that they are crucial to development at all levels.

Constantin Spiridonidis, Thessaloniki, GREECE

In the last part of this session I would like to present the second part of the survey. Yesterday I presented the competences that the educators feel are necessary to structure the profile of the graduates. Today we look at views of the professional. The question is the same: what is the profile of graduates from the schools of architecture? All of you received the call for filling in the questionnaire; not all of you answered. It is interesting to notice that we sent this information at the beginning of the summer to professionals and academics alike, and we received 430 answers from the profession and only 120 from the academics. Of course, this enquiry will remain open until the end of the academic year and I hope that by then we will have much more reliable results. The reason that I make this remark is not to complain, but in order to clarify that what you will see, this attempt we made at ranking, is not the final result but just

an intermediate phase, which is not reliable in terms of statistics and numbers. According to statisticians, the acceptable number would have to be somewhere around 800 in order to begin to speak about reliable results. We have a long way to go before we reach that number, but we decided to present what we have just to see what we can get from it. It also seemed a good way to examine what changes have taken place between the pilot phase and this one; and it is interesting to note that although many more people participated in this phase the results were not very different.

So I would like to pass very quickly to the steps that we followed. Please see presentation on pp 56-78.

Sven Felding, Copenhagen, DENMARK

Constantin, thank you very much for your presentation. In our school we certainly have the intention of using this questionnaire fully. In fact I hope that in a month or two we can have 98% of our teachers answer it. I was wondering whether you have decided on a schedule of how you intend to proceed in this work, because I am sure we would all be interested to hear what you plan.

Constantin Spiridonidis, Thessaloniki, GREECE

We want to close this at some time. What we said was that we will keep it open until next May. The reason that we have decided to leave it open for so long is mainly for the professionals. We consider that we must communicate what we have done so far as a first approach, and I am sure that this will facilitate the collection of new questionnaires. I think that we will continue this collaboration with the ACE, and probably another reminder together with the first results would be useful. On the other hand, it is very interesting that, when we circulated this call for contributions and when the ACE diffused it to different professional bodies in Europe, we received expressions of interest from a variety of different sources, asking how long it would be going on; because, you see, there was a deadline at first, and we allotted this long period of time in order to allow us to gather more input. So it will be open until the end of May, and we will send a reminder to you some time before that, so do not forget that it is up to us to have reliable information about this.

Before we continue I would like to invite the Chair of the meeting to lead the questions and proceed with the discussion.

David Porter, Glasgow, UNITED KINGDOM

I only have one question and, depending on the answer, some information that I hope will be useful. In Scotland, and at the same time in England, about three or four years ago, a credit and qualification framework was introduced across education; and my question is whether this happened elsewhere, because what it did was a great deal of the work that is on here, except in terms of the levels. It did not just deal with BA, MA and PhD, it dealt with the learning outcomes at the end of the first, second and third year of the BA degree. In a sense it dealt with a great deal of these in a very systematic way, and what we were asked to do, all of the schools and all of the disciplines, was to describe our programmes using this as a template that could apply to any subject. It was a very useful exercise; and I wanted know whether this was happening across Europe, because I assumed that it was. However, I think now that it

happened in Holland, Ireland, Belgium, but nowhere else, is that right? For as I was listening I was thinking that we have already done this; but I see that some of us have and some of us haven't, so there is a connection to be made. And I would say that for us it was an incredibly useful exercise, because we had to design, as designers, our own course, and it was like setting our own brief within a template. It was really a very creative exercise. But the information I wanted to give is what has happened subsequently, in relation to the validation that we seek for our programmes; and the truth is that we have a series of different things – I think Leen was pointing this out. One is that we have the EU Directive and the 11 points; and there was uncertainty about whether they would continue, but now we know they will. In the UK system there is also something known as the 'subject benchmark'. There is a subject benchmark for architecture and it is very short. It was written by the heads of schools for the Quality Assurance Agency, and it states what the student in architecture will know at the end of the first, second and third years. So we have the EU Directive, we have this benchmark statement, and then we have the criteria set by our professional bodies.

Now, in essence, all of these are different versions of the same thing. It took us two years to understand that they operated in different ways and used different languages to say the same thing. The credit and qualification framework describes the levels of achievement as you progress through the system, and at the moment the SCOSA (the Heads of the Schools of Architecture in the UK) is negotiating with the Quality Assurance Agency on the rewriting of the benchmark, at the same time as rewriting the validation criteria for the professional bodies. And, partly inspired by the work of this body and by a presentation that Dino gave us about a year and a half ago, we are trying to negotiate with our professional bodies something that is very simple, namely that each school will deliver the 11 points of the EU Directive, and each school then has the duty to convince the professional body that it will deliver them, and the level of achievement will have to do with the level of the qualification framework; and what we have tried to do is bring this all down to something very simple that we can write in our own terms and then put to the professional bodies. Those negotiations were happening over the summer and they will be concluded sometime during the autumn, but we hope in the end, after a huge amount of work, to have put something together. But I think it tries to relate the EU Directive to these sorts of competences and to learning outcomes. So I think it might be useful, when that process has gone a little further, to bring this information to this meeting.

Constantin Spiridonidis, Thessaloniki, GREECE

It is not possible to give an answer, but I would like just to make a short comment on what you said. Of course the purpose of this enquiry as it started had nothing to do with the Qualifications Framework or the evaluation and accreditation processes in general. We considered, and we would still consider and would like to keep to this line, that the investigation about competences is a purely academic debate among us, and the definitions of those references of the profile of our graduates are at the centre of our academic preoccupation. We would like to use this as a tool for our deliberation, our liberty to select what is good for our understanding as schools, as heads, as programme coordinators, as a group of teachers, and to put it in the line of our policy for constructing, reconstructing or reconsidering the curricula of our schools. And that is all. If there is a possibility that this could be used in different frameworks as something prescriptive or measurable or as some sort of items on a list to be ticked off, that is another story and we did not have this dimension in mind.

We had something in mind related to that and I would like to clarify it a bit. For each one of the competences there was a question on whether that particular competence was one of the competences considered as important in the Qualifications Framework or in any qualification framework that the school uses, the idea being to see which are the preferences of the teachers and which are the definitions of the system in each paradigm.

It is possible to develop this information to see how popular the competences that are in the official evaluation and accreditation system of the schools or the countries are, but it was not possible to develop this dimension for this phase of the presentation. It is a kind of effort to define the bench-markings, but it has not yet reached a stage where it can be presented.

Herman Neuckermans, Leuven, BELGIUM

I have a comment related to the subject of this diagram. If you asked me to tell you, without looking at your diagram, what the research competence would be at the PhD level, I would answer that it is the capability to do research. This is just a spontaneous remark, but I think that the capability to do research is different from the ability to know about research or the ability to read research results, and that it is the ability to do research that is the core of the PhD. For example, for the MA in architecture it is essential to be able to design; for research, I would say it is the ability to do research.

My second comment is more technical. I remember that you asked us to give the questionnaire to five or more of our teachers. I think that it is likely that they will give the same answers to your questions, at least in the beginning; so in that case this may be a discriminating factor. Otherwise, I think, you falsify the statistical results by giving the same answer many times.

Constantin Spiridonidis, Thessaloniki, GREECE

I do not understand what the problem is. You say that five people would give the same answers: what would be the problem with that?

Herman Neuckermans, Leuven, BELGIUM

That afterwards when you see that you do not have 400 answers, but 2000, it may still be the equivalent of 400 for those questions.

Constantin Spiridonidis, Thessaloniki, GREECE

But how do you know that they will give the same answers? Each person will fill in the questionnaire for himself or herself online.

Herman Neuckermans, Leuven, BELGIUM

There were some questions that were had to do with the school, so for these you would expect same answers from the people in the same school.

Constantin Spiridonidis, Thessaloniki, GREECE

But, in that a case I will know that from such and such a school these are the answers. I still do not think that they will be entirely the same; but if they are, then that can be taken into account. So concerning the first part of your question, the reasoning behind incorporating the PhD into

the list of the references was that in several schools, and not only in schools of architecture, the PhD is presented as a core course and not as a separate research project. So since there are different levels of teaching, we thought we could use them to assure some learning outcomes and competences that would help us to organise the educational cycle, the teaching part of the PhD. Of course, if it is a question of a researcher working in an office, you understand that such a case is not really related, or at least not directly related. So it was these taught courses at the PhD level that we had in mind when we structured the questionnaire in this way.

Julia Gonsales, Bilbao, SPAIN

I just have a few comments. I found your presentation of the different competences very interesting. If you do a serious statistical study you will have to go into correlations and obviously there would be an impact, depending on the number, on the places, but if it is only five maybe it is not so significant. Then, in relation to the issue of the competences, some of them seem to be specific for one particular degree and others tend to be repeated, which would suggest that those that are repeated should be taught at different levels to different degrees.

Constantin Spiridonidis, Thessaloniki, GREECE

Yes, but I think that there are not many of them that are repeated.

Julia Gonsales, Bilbao, SPAIN

Yes. Some are, but that is fine, because it shows that they are competences that should be focused on throughout the degree, and that is important. And in relation to the question about the Qualifications Framework, I think that we are trying to get to things from different angles. We are aware that a synthesis is needed and there is a project that is being worked upon by the Tuning people and the people from the Qualifications Framework in order to make such a synthesis, because there are some elements that should be there. I mean, Tuning has started with the competences and, as I said earlier, the person who wrote the Qualifications Framework is somebody from Tuning. So the language is the language of Tuning, but obviously the element of levels that appears in the Qualifications Framework is much more top-down, because it is the countries that decide, but only three or four countries have implemented it at the moment.

Jean François Mabardi, Leuven, BELGIUM

I do not have a question, but more of a suggestion. May I have the previous slide?

Constantin Spiridonidis, Thessaloniki, GREECE

The PhD or the BA?

Jean François Mabardi, Leuven, BELGIUM

I think it was in the PhD, the ability to identify and use sources of relevant information properly. Now I would suggest to whatever body is dealing with this problem that they apply what they say and use the competence to identify and use sources of relevant information properly and identify and use relevant tools, because it seems to me that we are in the 1980's or maybe right after 1968, talking about learning to learn. I have not heard a word about the things that are being said now in the most advanced circles of research or anything to do with complex-

ity – nothing. It seems that this is one of the characteristics of our post-modern times. How do we deal with that ambiguity between fragmentation and the holistic approach, which is very relevant for all sciences including architecture, for all things which are new, and I do not see anything about that. We are dealing with uncertainty. What is old in this, what is already known and what is new?

So I would suggest that you give us some bibliography about the most advanced books on pedagogy and research today. I do not know what is most advanced today. I know what was most advanced when I was entering my career: Edgar Morin, , Bateson – they said things that were much more interesting than what I find here, things that dealt with the structure of things. Bateson has written a book that deals with the structure of things, of events, of phenomena, of living creatures, the things that are important. This, I have seen already. I am old enough to say that I have seen some part of everything since 1948. I have seen Bloom's taxonomy and Donald Schön and all the work of Argyris on education; and I have the feeling that these people who have done such fantastic research work on education are not present in the thinking of the bodies doing this kind of thing for the future of young people, who are already in that kind of mentality of looking at things fragmentally rather than holistically. So if you could give us some good and recent bibliographical documents on pedagogy and education I think we will find complementary things, because what you have done, Dino, is very useful and I thank you for it. I think that it was an important thing to do, because it is necessary to have a state-of-the-art and to know what things are happening around us. And this is a reflection of what is happening. It can be a simple reflection of the fact that those kinds of readings are not circulating in the schools, and they should be. We speak about professionals in relation to architects, or urban designers: are we, the educators, not professionals? Is it not time we took our activity as a professional activity, and not as a hobby or a public service, and dealt with it by reading books about pedagogy, which is our activity? I do not see a reflection of this, and this is a state of the art. I think that we should look at what is new in education and what the latest writings say. UNESCO published two small leaflets written by Edgar Morin that are fantastic and that talk about all this, and that was in 1999 or 2000. So I think that we have to be aware of what is already new and what is prospectively new, and not only of the state of the art. I think that knowing the state of the art is important, and I thank you, Dino, and I thank the EAAE for this effort that has given us this image; but we need also to have an idea of the prospective image. I have a new life. I am entering my third or my fourth activity period ,and I think about the future. Thank you.

Constantin Spiridonidis, Thessaloniki, GREECE

Thank you very much, Jean-Francois, for your suggestions and your comments. I agree with the biggest part of what you said, but I think that what we are trying to do here is a different process. I think that what we are doing here and what you talked about are two different things. Of course I understand very well that the need for a pedagogical approach in what we are doing is absolutely necessary, and I am also sure that you know better than anyone else in this room that it is my preoccupation as well; but what we have tried to do here is not to record pedagogical approaches, but to record profiles and characteristics of the profiles of the graduates of different cycles.

Regarding the complexity, it would probably be interesting to see it incorporated here, and it would be interesting to think about how we could do it. I would just like to remind you that

there is a blank space in the questionnaire where anyone can add those competences which he or she does not find in the list, and I would be very glad to see additional competences, not only from you, of course, but from anyone else who is willing to spend a quarter of an hour to fill in the questionnaire.

Before we start the discussion, I would like to invite two of our colleagues to contribute their views to this debate, because in the discussions that we have had I felt that they are dealing with similar problems. The first is Mike Monty, from the United States, who is a member of the Association of the Collegiate Schools of Architecture, the well-known ACSA; the second is Hernàn Marchant, from the School of Architecture of the University of Chile, who will represent the team of Latin Americans who have honoured us with their presence this year and who, as Julia mentioned, have worked on the Tuning project and have had their own experiences with competences.

Michael Monty, Washington, USA

Thank you for this opportunity to say a few words. I am very pleased to be here, at the suggestion of Per Olaf and Marvin Malecha, representing the ACSA and I am sorry Ted Landmarks had to return to the US today, otherwise he would be delivering these comments.

There are a couple of things I want to say in terms of competences and in terms of what is going on in the US. The larger context in which the ACSA has been discussing competences is accreditation. In the US accreditation is handled by a kind of super-organisation called the National Architectural Accrediting Board, which is made up of representatives of the ACSA, representatives of the profession, through the American Institute of Architects, representatives of the licensing agencies, through the National Council of Architecture Registration Board, and representatives of the students. Our accreditation process is reviewed every five years and in the fall of 2008 we will have what used to be called the Validation Conference, now being renamed the Accreditation Review Conference. The National Architectural Accrediting Board looks at thirteen conditions for accreditation and the last condition is what we call the student performance criteria, which I think is essentially the equivalent to the competences that students need to have upon graduation from a BA in architecture, an MA in architecture and a doctorate in architecture programme. There are thirty-four criteria – there used to be over seventy, but they have been whittled down to thirty-four – and these criteria apply to graduates of degree programmes at every level. It does not matter whether you have a doctorate in architecture or a BA in architecture, the difference between the three degrees is specified in the rules as the number of credit hours that you take and any of those accredited degrees gives you access to the next step of becoming an architect, which is the internship and licensing process. We will be talking about competences and the student performance criteria in the next two years, so the discussions that we have had here are very inspiring, and I know that both Ted and I are very anxious to take them back to the ACSA and to discuss ways maybe to replicate the study that is being carried out here and then share the results with you and with our own members.

My last comment relates to a concern of mine as the Executive Director of the ACSA. Accreditation is one thing and it is done within the context of the profession and always within a kind of political engagement with the profession. However, we do not have enough discussion about competences in a strictly academic context, like you are having right now. It is a discussion that is happening in schools, at the PhD level, at the graduate and at the undergraduate levels, but people are not publishing, they are not officially talking about it. It is not a subject for discourse

at ACSA conferences now, it is not a subject for discourse in the ACSA Flagship Journal, which is a publication on architectural education, but it is something that I think needs to be discussed, because architectural education is falling behind what other professions in the US are doing. I worked for another professional organisation before working for the ACSA and I see what is going on and I think that we need to talk about these kinds of things and I think that the level of discourse that I found here needs to be brought to the US. I know it is happening in schools, because there are plenty of people who can talk articulately about it, but there is not this general form yet to talk about it, so I am very pleased to hear this discussion and to be taking it back with me to the US.

Hernàn Marchant, Santiago, CHILE

First of all, I would like to express, in the name of all the Chilean and Peruvian representatives here, our gratitude for this invitation, and especially for the warm hospitality we have received from the Amphitriton.

You probably wonder why we are so interested in being here. I was here last year and I returned this year, along with other colleagues from Latin America, and there are a couple of things that I want to explain so that you will better understand our interest. Usually when people talk about Latin America they say that it is a young continent, especially because it is a continent with many young people. Each year there is a huge number of new people to be taught and that makes the education process a little bit different than it is in Europe. I am going to give you the example of Chile so that you will be able to understand the situation a little bit. When I was a student there were no more than five schools of architecture in Chile, then twenty years ago the university system literally exploded and from four or five schools we now have about forty. In a country of 50 million people we have 15,000 students of architecture. Every year we have 1,000 new architects. The University of Chile that I represent, in 150 years of existence, it is the oldest and biggest university, I will not say it is the best one, has formed in all its history about 4,000 architects. Now in four years the other universities formed the same quantity. So the scale is enormous and that means that for us all the issues you are debating are very important, because we not only have the same problems that you have but we also have a problem of speed.

I think that in Chile the issue of speed or of doing things quickly has always been a problem. We usually do or try to do things before the others, at least in the context of Latin America. We were the first to choose a socialist president, who did not last very long, we are now the first to choose a woman as president, and we are always trying to do things first. To that end, we have already been working in the Tuning Latin America project, where we have had all kinds of experiences, and we have begun to do all kinds of research on pedagogical methods. I first met Jean-Francois Mabardi about five years ago in Chile, when he was invited by the University of Bio Bio, and then we later met with many other people, among whom were Marvin Malecha, Dino and Herman Neuckermans. So there is an on-going effort to meet with a lot of people and to find new approaches to these issues, therefore it is very useful to us to see what is happening in Europe and to hear your discussions, but I think that it would also be useful to compare our experiences on these same issues.

Ramon Sastre, Barcelona, SPAIN

Thank you, Michael. Thank you, Hernàn. I think that we will leave the debate for this afternoon, when we will be having a general discussion on all the sessions.

Session 6

Synthesis and Conclusions

Constantin Spiridonidis, Thessaloniki, GREECE

In this closing session, we can continue the discussion that we began earlier, but we should also have a more general discussion about the meeting and the themes that have been developed during our debates these past few days. Just to initiate the discussion I would like to ask Per Olaf to make a short summary of the issues that we have developed and his views on them, and then we will open the discussion to all the participants.

Per Olaf Fjeld, Oslo, NORWAY

Thank you, Dino. I certainly think that it has been a very productive meeting and I want to take this opportunity to thank Maria and Dino once again for making it happen. The data that has been produced is essential, and I believe that this work should definitely be continued. Even if at times numerical data like these seem a bit boring, I think that this type of information has a special power and provides a different kind of insight. Perhaps the most important thing is that, although based on dry facts, it allows for different types of interpretations; and it is very important that we do not simply regard this information as statistics, but are able to discuss it beyond the attitude of statistical analysis. If we are not able to do that, then I think that the value we get from the survey will be greatly diminished. In other words, we must use the data as a basis for discussion and not get stuck on the procedure or specific details. I think that Constantine hit the nail on the head this morning when he said that it is the attitude hidden within the data, and not the actual precision of the statistics, that allows for discussion.

I also think that it is very important to differentiate among the data per se. In other words, we have different categories of information and it is essential that we do not discuss them in the same way. We have a mapping of information regarding the types of degrees, etc., and then we have data that are more or less trying to breeze into the idea of content; and in my opinion these two things are very different and should not be discussed in the same way, though I do think that they are part of the same discussion.

The data per se can, as I said, be boring or dull in many ways, but at the same time can also convey a brilliant representation of what we already know; it is therefore very important that this effort be continued. Personally, I have not always been so sure of this; but I see that the need for building up a stronger base that will then belong to architectural education and that can offer an opening for this discussion is something that is very essential.

Turning to the two keynote lectures, Craig Dykers in his introduction asked: who is the other? I think that this is an interesting question with regard to architectural education and, in general, to architecture, because we do not really know what the other is. We have no excuse here. It is not the profession of architecture as opposed to the profession of education: there is no "other" in education, and I think that is an important factor within the constant relationship between architecture and the profession, and that we really have no excuse not to know or have the understanding of the complexity that occurs.

I stated very clearly yesterday, in my speech to the General Assembly, that I think we will be making a crucial mistake if we attempt to simplify architectural complexity, and that we will be making an even greater mistake if we do not have the capacity to take on the complexity that architecture has in our education. On a personal level, I would like to be very clear on that, because, in a way, making architecture is both a personal and an objective process, and I feel we have the tendency to simplify the complexity both within architecture and within the act of bringing architecture forward; and I think that it is quite essential that we take on the task

of facing that complexity. The speakers were of different ages but they both talked about the complexity of architecture in one way or another, and they both seemed to have tackled the complexity of architecture itself, while also bringing it forward into the reality. There is no scheme, there is no programme, that has that complexity in itself; therefore these schools must allow for an environment in which this capacity can be brought forward in some way. As I also said yesterday, that is a creative act in itself, and it is the responsibility of the heads of schools of architecture to bring forward a discussion within their own environment that allows that creative process to take place, and maybe as a meeting of heads that is the strongest signal we can put forward. Tuning may be able to bring some sort of simplified order to this complexity, in a way that can be understood or argued by others; but if each school is not able to find a base of its own, if each school is not able to find an environment wherein this creative capacity can emerge, how can you think that another competitive profession which is more related to us, will be stronger and stronger.

I also want to refer to the relationship between particular specificities and particular competences. European architectural education has a very long history behind it that also belongs to teaching. As Herman said this morning, we are not starting from nothing and it would be very stupid not to recognize our background, and that there is a capacity in that background which we can use. In other words, the basis from which we continue our discussion is not nothing; and in that we should appreciate that the specificity is more than the culture of complexity that we are in, and we should have a stronger awareness of that. I am not pushing culture per se, certainly not, but I am pushing an identity which is embedded in the differences between us, for beyond the complexity that is inherent in architecture we can find a route to bring architecture forward, not only within its newness, but within its understanding.

It might be my limitation, but I still believe in architectural space, and that architecture has a capacity of its own within the relationship between person and space. If that capacity is still present it is a capacity that is in no way static but requires attention, thought, courage and most of all concentration on the reading of where we are and where we have yet to go in relation to bringing that space forward. If not – and I think this is quite clear – architecture will be reduced to an object. We must understand that architecture has an identity of its own and that it is our responsibility to bring that identity forward – assuming, of course, that you agree that we want that within our education. Thank you.

Constantin Spiridonidis, Thessaloniki, GREECE

Thank you, Per Olaf. I want to ask James Horan to say a few words in summary of this meeting and what we have accomplished so far.

James Horan, Dublin, IRELAND

Thank you, Dino. I had not really expected to be asked to speak at this point because most of you have heard a lot from me during the past three days. I suppose that it is inevitable at the end of a meeting like this for one to assimilate and form conclusions about the event itself, about what it means and about where we might go with it in the future. One of the strengths of these meetings in Hania has been the fact that we agreed that they would continue, and that we always look forward to the next occasion when the various topics we have discussed can be developed further.

I would like to conclude my view today with a few observations, and perhaps a couple of allegorical references. I was talking this morning with Marvin Malecha about how people sometimes tend to look at a subject – architecture, in our case, but it could be anything – and Marvin remarked that if someone thinks he can understand time by taking a clock apart and looking at the component parts, he is seriously disillusioned. And as Marvin said this, I was reminded of the unfortunate air-accident in Kentucky a few weeks ago, which killed 49 out of the 50 people on board, and which happened because the airplane took off from the wrong runway. Now the training of pilots is a very exacting and precise process, and the training of the air traffic controllers is equally rigorous. Nevertheless, despite all of the ticking of the boxes by pilot, co-pilot and air-traffic control, an absolutely fundamental mistake was made: they took off from the wrong runway. There is a lesson in this. I am a pilot myself, and when I was learning to fly there was a very interesting sign in the aviation school, saying: “The superior pilot is the pilot who uses his superior knowledge and experience to avoid situations which demand the use of his superior skill”. This is the core of what we have to be as those responsible for architectural education. And the point both Marvin and I were making was that education can never be a box-ticking exercise. It can never be a matter of making sure that you have filled out all the correct forms. Our responsibility exists irrespective of what forms we fill out or what boxes we tick. Our responsibility is the holistic view of our superior experience. This for me is the future of where architectural education is moving.

I realize that we have an enormous amount of work to do in defining the areas of competences, and I realize that defining outcomes and competences and student-centred education is very significant in the advancement of the work we undertake. However, it is also important that in the process of doing these exercises we do not lose sight of the bigger picture, so that we do not find ourselves in a situation where we are sitting at the end of a runway, believing that it is the right one because we have filled out the boxes.

In the case of the European Directive, the 11 points defining the parameters of architectural education took seventeen years to develop. Their strength lies in the fact that they are not over-prescriptive. I believe that if we become too precise and over-prescriptive we will prevent evolution and development from occurring. We are in danger of freezing the process of architectural education in this time, and if we do that it may take a long time before the Ice Age passes and thaw occurs. In my opinion, one of Europe’s great strengths is the barrier of language. We talk about the difficulty of communication because we speak so many different languages. For me this is the strength of Europe: this diversity, this difference in interpretation, these nuances of belief and understanding, as well as the necessity for translation and understanding, which does not happen overnight; all these are factors that lengthen the process of discussion and that can only be beneficial. The serious risk that we must avoid at all costs is rushing too quickly into solutions, thinking we know the future and thinking we know how to describe things to come. We do not. The chances are, if we do we will be wrong. I am delighted that we are situated in this Europe, where the multiplicity of language, culture and diverse experience will make us take our time in taking steps and will not allow us to fall into the trap of the box-ticking exercise that could be the death of not only architectural education but of education in general.

Finally, because we as architects and educators in the field of architecture are dealing with an area of study that is at the same time both simplistic and complex, we are in the unique position to maintain our individuality. Other areas of academic study are not so clearly in that position. So my advice to all of us is to make haste slowly. Thank you very much.

Constantin Spiridonidis, Thessaloniki, GREECE

Thank you very much, James. I see that Per Olaf wants to add something.

Per Olaf Fjeld, Oslo, NORWAY

I would like to point out two positive factors. One is that architecture has never been more popular before. Everybody talks about architecture, everybody is certainly interested in architecture on one level or another, and we know the limitation of that level. However, if we do not have the capacity to use this as an inspiration of some sort within the schools that we represent or if we look upon this interest as negative, I think we fail. So at least as far as we are able we should try inspire others and to use this positive interest towards bringing architecture forward.

Something else that I feel very strongly about at this time is that younger people – though, of course, they are not all that young – express a very positive interest in the association and in this meeting. I had an opportunity to talk with some of you. I see that you are interested in being part of this association, and for me it is a very great pleasure to see that in your eyes, and I thank you for it.

Constantin Spiridonidis, Thessaloniki, GREECE

I know Herman would like to make an announcement, so I will invite him to do so now.

Herman Neuckermans, Leuven, BELGIUM

I am sorry to intervene at this point but I would like to come back to what I said yesterday in the General Assembly about the new project the EAAE is going to be involved in. As you might know, a lot of things are changing in computers and in the use of computers in architecture, and the EU is launching a programme within the framework of E-competence+ called MACE, Metadata for Architectural Content in Europe. I am involved in it on behalf of the EAAE and I would like to tell you what it is about. Most of us, in our schools, have been developing digital data to use in our classes, but we have been keeping it ourselves and thus are limiting our capacities. In our school we have a case database, Dynamo, which I presented here at a previous meeting and which I was trying to join with others from other schools; but that did not work out. Now the EU is launching a programme, coordinated by an Institution in Germany; and they are trying to do this another way. The object is to identify all repositories of architectural data throughout Europe and to build a system that will provide access to all of them. Therefore, if you, or one of the teachers in your school, has some kind of repository of architectural content, some kind of structured collection of architectural data, please fill in the sheet that I will pass out so that you can contact them. It is a win-win situation – you keep your data but you allow others to access it and in exchange you have access to the data from other countries. Thank you.

Constantin Spiridonidis, Thessaloniki, GREECE

Thank you, Herman. Now we can open the discussion to the floor. I see Dimitris Kotsakis would like to make a comment.

Dimitris Kotsakis, Thessaloniki, GREECE

I felt today an urgent need to remind myself of the context of this discussion, for somehow I had become confused about it. I want to make three points about the context of the discussion. The first point, and it is one that I want to stress, is that here we represent Europe and not the European Union. I say this every year: we are not the European Union. This is very important. We represent the universities of Europe, not in the legal, strict sense of a university, but in the terms of the Magna Carta, which defines a university as a public place that is independent of all political authority and economic power. Now, if we are to be independent of all political authority and economic power the first thing we have to be very careful about is the hidden political authority, the faceless political authority that is the structure of the European Union at this moment, the European bureaucracy. And that is my second point. I am adamant on these two points, because they define my position here. If this were not the context, if this were not Europe and if we did not represent the universities, I would not be here. It is very simple. I would be very interested in what the European Union does, in what European bureaucracy does, I would read about it in papers, I would discuss it with friends, I would take it into consideration (that is very important and I am not naive) – I would do many things about it, but I will not be a part of European Union bureaucracy. So these are two points that I think are very, very important.

The third point I want to make is about architecture. One of the first things we said nine years ago is that we are facing a historical period where a rich, integral, unified architectural education is being replaced, as a matter of decision, by a fragmented training in different small scattered areas. Now this has to be debated, but it depends on the context of the debate. For an integral education, complexity is an important issue; but thinking back to what we said nine years ago, complexity is not the only thing in this issue. Complexity is only one aspect of it. The other aspect is variety, and variety plus complexity makes composite. And the two concepts of complexity and variety are structurally different. So the question about integral education is a question about compositeness, not only about complexity. That is another thing to be debated.

Within this context it is said that we as teachers should orient our discussion so that it is based on competence and centred on the student. Should we? There is a problem here, because there are two unknown words: the word 'competence' and the word 'student'. Because, on the one hand, the more we talk about competence the less we know about it, and on the other, we never do talk about the student: there is silence when it comes to the student. Suddenly it is said that we have to be centred on the student. What is the student? There are three definitions, and when I say definitions I do not mean dictionary definitions, I mean a kind of orientation. One says that the student is a consumer, another that the student is a stakeholder, and the third that the student is someone who eventually will be a partner. So let's take these three concepts: consumer, stakeholder and eventual partner in business.

For me, this is not the student; and this is why I am not centring my discussion on the student, but on the relationship between the student and the teacher. However, the relationship between the teacher and the students, and the university's relationship between the teacher and the student, is a different issue altogether, because it is a free relationship, one gives to the other different things. The professor, the teacher, who does not learn from the student is not a university teacher, and that is an important thing, because in a way they are equivalent; the one has experience, the other has novelty. So given that we are not centring on the student

but on the relationship between the teacher and the student, we move on to competences. Whose competences, and what does competence mean? I made a comment yesterday about the word competence in the English language. Competence is not skill, is not ability, is not understanding, not knowledge. Competence is all this in the sense of aptitude, attested aptitude. So competence is about attested aptitude, aptitude being all of the above, but not only, it has to be attested aptitude. Attested aptitude is what gives one the right to do things, what gives one the authority to do things. So the question about competence is a question about authority. We should be very careful when we talk about competences, because we are not talking about abilities, we are talking about the authorities who define the abilities, who define the right to use the abilities. For example, these past few days I have heard that competences are divided into generic and specific to theory and practice and research. And I ask, why? By whose authority? Who is to be served by this? If I keep in mind the free relationship between the teacher and the student, and if I say the content of this relationship is to develop freedom and creativity in an integral architectural thinking, then of course I am not making this kind of bureaucratic distinction between generic and specific to theory, practice and research.

First of all I will question the division between theory and practice. I will use the Greek term *praxis*, and I will say that the unity of theory and practice is what leads to freedom and creativity. It is the unity of theory and practice; it is the Greek word *praxis*, that leads to architecture, that leads to politics, that leads to everything. So in this framework, what is specific to practice? And the answer is skill – skill that is attested to and then authorized. And once my skill is attested to, then I say “I have this skill or competence, but can I apply it to practice?”. Then you come to the question of what application is. So you see it is a never-ending line of questions.

My point is that if we agree on the context we will put this discussion on a totally different basis. We will put the schools here as university places, we will put people here, we will talk about our relationship with our students in connection to society as a total – the production of the space in society, the social aspect of space – and we will start a rich discussion exchanging our experiences on how we do it in different places in Europe with different backgrounds and how we integrate all these different things in these ways. So I am hoping that this is what we will do. Thank you.

Constantin Spiridonidis, Thessaloniki, GREECE

Thank you, Dimitri. Are there other interventions or comments?
James?

James Horan, Dublin, IRELAND

For some reason or other this afternoon I feel in a slightly allegorical frame of mind and Dimitri has rung some very clear bells in my thinking about how we should be going about our business. I mentioned earlier that perhaps the importance of the 11 points in architectural education is that they are not over-prescriptive. Maybe I can just make one final allegory and I promise you I will say no more at this meeting. I believe that if we were to try to make a magnificent Cognac, a magnificent Grappa, a magnificent raki, we would have to begin by collecting all of the tiny trace elements that go into making the wine, then put them into a vat where some fermentation takes place (and part of the act of fermentation is time), and then after some time we extract a wine which is a reduction of all of the pieces we have put in, and then we begin to distil the wine to make the spirit. The spirit of our future is the distillation of the information.

All of the points contributed to these events come together, not quickly but over a period of time, to make something of extraordinary value and particular uniqueness. I think Dimitri is right. He is hitting on the point about relationships, and this is what the distillation process is: the continuity of interaction. The idea that anyone might come and tell us they have the answer would be a pity. Thank you.

David Porter, Glasgow, UNITED KINGDOM

I agree with James. I think that we are at a creative moment. I would use a different metaphor. I loved your metaphor about alcohol and wine; I think it is very appropriate. There is an even closer one, which is about making architecture. I think that we are in a creative moment and I think the structures we have seen on the screen are actually part of the project of us writing our own brief. And that is something we cannot do in isolation. We have to do that in accordance with our governments, our institutions, our professions and our students; but the framework is there for us as individual schools, in our diverse ways, to write our own brief for what we are going to do. And this is a fantastic moment. I do not think it has anything to do with ticking boxes unless we think it has, and if we think it has then that is what will happen; but it is a creative moment and we, I think, are designers.

The other aspect of this, and I was glad that the word 'student' was used because the other part of this analogy would be to say that we are in the studio, that a student has designed a school and pinned up his drawings, and we, what do we say to him? We ask him what he is trying to do with the design of the school. That is what we would say to them. We are now in a position where our students can say to us as heads of schools, what are you trying to do with the design of your school? And we can actually begin to do what we ask our students to do and explain what we are trying to do. So I think that it is a very creative moment.

Per Olaf Fjeld, Oslo, NORWAY

I always appreciate Dimitri's comments, because there is nobody else who is as prepared for the meeting as he always is. At the same time I think that each age has its own rhetoric and it is very important to understand that the young people of this world do not necessarily see it in the same way as we do, or at least that they have another language in which they discuss it. And I think the merging of that language within that complexity, beyond any political aspect, is very critical to this profession. Thank you.

Jean François Mabardi, Leuven, BELGIUM

I thought it was meant as a little joke, what James said about raki. But in the end I think that it is more than that. Raki is distillation, but the problem is whether we are going to drink that raki or not. And we are speaking about competences and so on, and distillation, and this and that; but I think we are dealing with something that I find to be lacking, and that is desire, the desire to acquire these competences. How do we cultivate that desire? The competence to have the desire to drink the raki. Is that a competence? I don't know. But if there is no desire to teach, no desire to learn, then we might as well stop speaking about all these things.

Georgia Bizios, Raleigh, NC, USA

I teach at North Carolina State University, and to continue with the metaphors I will tell you how to make lemons into lemonade. I have had the pleasure of working on the board of the ACSA, and then served for three years as one of the representatives of the Association of Schools to the Accrediting Board, the national body that decides on competences and the criteria of accreditation. You heard Mike describe the process, so I will not go into it all again. I visited at least 50 schools during the accrediting process. I have talked with some of you informally about those experiences, and I know that you are not close to doing that – and to tell you the truth I do not really wish it upon you. It is a tedious and expensive process, there is much that is wrong with it, but, as Mike said today, it works for us and we have tried to make the best of it we can to establish a process that is fair to all schools and actually tries to improve architectural education in the US as well as the profession. So I agree with many comments about looking at things in context or about questioning what is happening or about looking at this as a moment that is historical and a wonderful opportunity to seize upon. And I really think, although I might be wrong trying to guess the future here, that whether the schools want it or not, accountability is coming down the pipeline. I think that is the world we are living in. So I say that you should seize the moment, that this is your opportunity to form your own criteria or competences, 11 points or 13 or whatever you want to make it, so I hope that all of you who are in administrative or decision-making positions do not simply see all of this work that Dino did as ticking boxes, or say that you will wait until it comes down the pipeline as a directive. I think that this is an opportunity for you to discuss and decide what you want them to be.

I have two more comments to make. Making lemonade is one of them. In the US, the ACSA and the administrators have put their heads together and have managed to make, I believe, and I am proud of this, some good out of this very difficult and expensive process. I think that we have improved education for the students, keeping the student in mind as well as the profession. One thing we have done, for example, is visitations in our schools. These are an opportunity to celebrate what we do, to show how we are different from other schools: there are exhibits of student work, there are exhibits of faculty, alumni are invited, the community and higher administration is invited, so by having a visit at your school you make sure that everybody in your community - including your supporters - knows about what you are doing. It also helps the faculty and the students to reflect upon where the curriculum is going. So, for example, going back to making lemonade, I think that all of you could take the competences that Dino described and ask yourself, when you teach a course, or some of your professors to use them as a benchmark in figuring out how many of those competences they are covering in their own course for that curriculum. We do that as part of our process. Most of the teachers on the first day give out a syllabus for the class and announce which competences the course will aim at providing. It is a good way for the professor to see what the students are doing at the end of the semester course, and at the evaluations we ask the students to assess whether the course did indeed meet those criteria. So it becomes a very useful way of charting your course and of seeing if you are indeed achieving what you set out to do; and I hope that in a year or two when you are discussing this again, all of you from each course and each school can bring to the table and correct and improve and augment and summarise these criteria a lot more. So let me say once more that I am very happy to hear all of these discussions, and I do think that you have a wonderful opportunity to seize this moment to define your own criteria and competences rather than let them come down to you in a very administrative way that might not be good for architectural education in Europe. Thank you.

Ramon Sastre, Barcelona, SPAIN

I just wanted to say something in conclusion, not about architecture at this moment, but about things that have been happening these days. Yesterday, Marvin Malecha said that what is happening here is new, and I am sure it is. And then today Jean-François said that some of these topics were things that were discussed years ago. I was reminded of what the philosopher said about “I am, me, myself in my circumstances”; and topics, I think, are the same. There are topics and there are circumstances, so that although we may repeat some discussions, in essence they are not repeated, because the circumstances have changed. And that is maybe one of the reasons that some of us come here year after year – unless we are just masochists. I have been coming for the past four years, but I know that many of you have been coming a lot longer. So things may be repeated but not in the same way because the circumstances are different. In this sense, I would try to understand what the circumstances are every year, and when we return home to see whether what we have heard is just the same or not, because even if the topics were the same our circumstances are not. I think that this is positive, and I wanted to say this because sometimes you may feel a bit negative, hearing something discussed again and again, so I just wanted to remind you that it is not the same because the circumstances keep changing.

Urs Hirschberg, Graz, AUSTRIA

I am the Dean of the Technical University of Graz. This is my second time here, and I will take the opportunity to thank everybody, because everyone knows and appreciates that it is a wonderful venue and occasion to exchange opinions and views about things. Two years ago I took the opportunity, because we were talking about research in architecture, to announce the Graz School of Architecture Magazine. The next issue, which has since appeared, was about design science in architecture, and it had to do with this question about how we deal with research in architecture. The discussion we have been having this afternoon and during all the past days was about how we deal with the future, and it is funny, because the next issue of the Graz Architecture Magazine will be called *Emerging Realities*, and it will be about just that. It will go beyond the hype that currently surrounds architecture and will question what the realities are that are shaping architecture and our profession.

I know this sounds like a plug, and it is, but not in the sense that I want to sell you a magazine about our school. Only ten pages or so are about our school: the bulk of it is given over to an international debate about architecture. We pay the contributors, and we see it as a kind of gift to the scientific community, in the sense that we feel that there is a lack of peer review publications in architecture, and so we are producing this once a year to change this as much as we can. And as I said, I think that in this group there is a lot of knowledge about these emerging realities that we all face, so any contribution you could make would be valuable. The deadline for abstracts is September 30th, and you can talk to me if you are interested in this. I would be happy at the prospect of having a lot of interesting contributions to choose from in the next issue. Thank you very much for allowing me to say this.

Marko Savić, Belgrade, SERBIA

Why have we all started this process? What was the cause and what was the reason? The Bologna Process could be recognised as the cause, but the real reason is that all of us believe that we can improve our curricula, our institutions and ourselves. So I must agree with Ramon

that we must do this in cycles, and we must repeat in the cycles the processes that we are passing through, because the circumstances are changing and the situation is changing. I must also agree with Jean-François that maybe it is time to go back to the content of the process of education and forget the administrative structure of the Bologna Process for a while. Of course we will all have it in mind because it is the milieu, the context of our work; but I suppose that the research on the context of the process of architectural education should be the next step. Thank you.

Pierre Alain Croset, Turin, ITALY

I would like to come back to the question of relations between architectural education and the different professional profiles. The question is, what is our mission with architectural education? I am sure the main mission has to do with Europe, identity, complexity and this multiplicity of cultures, and it has to do too with upgrading the built environment and with rebuilding Europe. I see it is important in our ethical mission in relation with the students to know that a big part of the disaster of the reconstruction in Europe after World War II, had to do with the very bad reconstructive architecture that was made by architects, not only by non-architects. We know that only a part of the built environment is designed by architects and it is a problem and it has to do with the definitions we talked about regarding what an architect is, what a European architect is, and so on. But a part of the responsibility belongs to architects.

This is not a polemic. I wanted only to say that we know that architectural education in our schools does not only form architects, we form people who often perform a lot of other activities that have or do not have a relation to architecture. In this sense it is very important in our mission, in our education for a sensibility in architecture, that a part of our students will not be architects, but could act on behalf of the clients with a sensibility in architecture.

The problem now is that we continue, and for me this is a little anachronistic, to think that we have to form only architects and in our model the typical student is the student who will be an architect, who will respond to the competences in the 11 points, who will be competent in these 11 levels, when we know that now the majority of European architects do not respond to and do not have competence in the 11 levels. For this reason I think that it is very important for us to think about a change in our mission that will reflect that only a part of our students will finish with an MA degree, as fully educated and qualified architects and will move on to work as architects. We also have to think of the other ones, and in relation to Bologna it is important to give the possibility of greater flexibility for people who begin with a BA in architecture but might want to continue in relation to economics, politics, or other subjects, but still will be trained partly as architects.

Yesterday, Nuno Portas spoke about urbanism and the formation of the Institute of Urbanism, and also the example of an urbanist, who was not trained only as an architect but who was excellent in research, in urban planning and in urban design, that showed the possibilities that come from different disciplines. And I think that it will be very interesting for the future of our association to develop a discussion which will not be about setting aside our mission to form architects, but which will include all the other competences that act in the development of good architecture. Thank you.

Colin Pugh, Manchester, UNITED KINGDOM

So in the light of our experience in the UK – you know that we have already gone through some of this stuff we are talking about and David has hopefully reassured you about some of the aspects – I would just like to make the observation that the competences might be the minimum standards that needs to be evidenced by all graduates at any level, BA, MA, whatever. It is clear that competences usually have to be demonstrated rather than be assumed and that is an interesting point and one which in the UK we reflected quite hard on, and I would say that is a significant implication, but the key point is that I do not suppose that there is anyone from a school of architecture here that would want to be associated merely with the minimum of standards of their students. That of course would reinforce the points that have been made by everyone about the identity, the individual identity of students, not being based on these minimum standards. So in my view you must not get it out of perspective, instead you should form your identity based on other aspects of your schools' operation and interests, etc.

Following on from the example set by my colleague from Graz, I would also like to remind you that there is a conference in December, at the Manchester School of Architecture, which is maybe a more cheerful subject for academics in architecture and of course you would all be very welcome and there is information available on our Website. So I just wanted to mention that for your reference, and then that we are also planning a more major conference in Manchester, a national conference on architectural education, in 2008, for which we will probably release details fairly soon and I can promise you it will not be concerned with competences or EU regulations, so you may be interested in that when it arrives as well. Thank you.

Lucio Barbera, Rome, ITALY

I think that the main objective of an architect is to build, but a good architect could become a good historian or could become a good real estate agent. In my opinion the main problem this association has to tackle is that we have come to the point when we need to build a consensus. I do not know how, but I think we should make an effort to have a lot more faculties with us here next year, because I think that the only way to make sure that this strategy, this very intelligent strategy, will work is to involve others. So this is my greatest concern at the moment and we are facing this problem in Italy and we are trying to involve others, but, as a general conclusion, I think that we need more faculties. Thank you.

Constantin Spiridonidis, Thessaloniki, GREECE

It seems that this was the last intervention. I want to thank you all very much for everything, for being here, for participating, for contributing with your presence, with your ideas and interventions, and we sincerely hope that you enjoyed your stay and that this meeting was as fruitful as the previous meetings were. I wish a very lovely night and a safe journey back to your countries and I hope that we will have the possibility to meet each other soon, if not next year then in some other time and place.

James Horan, Dublin, IRELAND

Ladies and gentlemen before you leave the room. I said I was not going to say anything more, but I would like you to stand and applaud Dino and Maria for an extraordinary, perfect event.

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