

Aarhus School of Architecture // Design School Kolding // Royal Danish Academy

Profile: Moscow Architectural Institute (MARCHI).

Toft, Anne Elisabeth

Published in:
EAAE

Publication date:
2004

Document Version:
Publisher's PDF, also known as Version of record

[Link to publication](#)

Citation for pulished version (APA):

Toft, A. E. (2004). Profile: Moscow Architectural Institute (MARCHI). Interview with Alexander Petrovich Kudryavtsev, MARCHI, Moscow, Russia. *EAAE*, (70), 13-17.

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EAAE News Sheet

Bulletin | **2004** | Oct. / Oct.



EAAE News Sheet

Aarhus School of Architecture
Noerreport 20
DK-8000 Aarhus C.
Tel ++ 45 89360310
Fax ++ 45 86130645

Editor

Anne Elisabeth Toft, Architect
Ph.D.-Student, The Aarhus School of Architecture
anne.elisabeth.toft@a-aarhus.dk

Dtp

Jacob Ingvartsen, Architect
eaae@paperspace.dk

Contributions to EAAE News Sheet

Contributions to the News Sheet are always welcome, and should be sent to the editor, who reserves the right to select material for publication. Contributions might include conference reports, notice of future events, job announcements and other relevant items of news or content. The text should be available in French and English, unformatted, on either disk or as an e-mail enclosure.

Contribution AEEA News Sheet

Les contributions au News Sheet sont toujours bienvenues.

Elles doivent être envoyées à l'éditeur, qui décidera de leur publication.

Contributions d'intérêt: rapports de conférences, événements à venir, postes mis au concours, et d'autres nouvelles en bref sur la formation architecturale. Les critères à suivre sont: Les textes doivent être en Français et en Anglais, en forme d'un document de texte non formaté, qui peut être attaché à un e-mail ou être envoyé en forme d'une disquette.

News Sheet deadlines

No. **71** Feb. / Fev. 2005 — **01.01**

No. **72** Jun. / Jun. 2005 — **01.05**

Coverphoto

International VELUX Award Jury (Photo credit: VELUX)

From left to right: Glenn Murcutt, James Horan

Editorial

News Sheet Editor - Anne Elisabeth Toft

Dear Reader

The size of the EAAE News Sheet reflects the many activities of our association, and I am indeed very pleased to tell you that this issue of the magazine is the largest ever.

Never before has the EAAE News Sheet had a size of 64 pages.

Below I shall briefly tell you about the contents of the magazine:

The city of Chania on the Greek island of Crete was once more the venue for the EAAE's **Meeting of Heads of European Schools of Architecture**. The meeting, which gathered approximately 100 deans, rectors, as well as programme- and exchange co-ordinators, took place from 4 to 7 September 2004.

The **Meeting of Heads of European Schools of Architecture** is organised by EAAE Project Leader **Constantin Spiridonidis** (Greece) in collaboration with EAAE Council Member **Maria Voyatzaki** (Greece). The overall aim of these meetings is to create a framework for critical discussions in support of schools of architecture and their integration into the European Higher Education Area.

The Meeting is not a conference with paper presentations; the Meeting is first and foremost a milieu for exchange of school political views and dialogues. This year the Meeting, which had the heading "**Shaping Architectural Curricula for the European Higher Education Area**", focused on the curriculum and in particular on its structure and the content of studies. The Meeting's main objective was to schedule procedures for the development of tools and mechanisms which will more decisively support schools of architecture in their effort to be integrated in the European Higher Education Area.

Constantin Spiridonidis had invited Professor **Stanford Anderson** (USA) and Professor **Kas Oosterhuis** (The Netherlands) to lecture at the Meeting. Professor **Stanford Anderson** is Head of the Department of Architecture at MIT. He founded the Ph.D.-programme at MIT, and he also

Cher lecteur

*L'épaisseur de notre **Bulletin de l'AEEA** reflète tel un miroir le niveau d'activités de notre Association et je suis tout à fait ravie de vous informer que le présent Bulletin est le plus volumineux que nous ayons jamais publié.*

*Le **Bulletin de l'AEEA** n'a jamais auparavant couvert 64 pages.*

J'ai le plaisir de vous présenter à la suite quelques-uns des sujets traités :

*La ville de Chania sur l'île de Crète a de nouveau été le cadre de la **Conférence des Directeurs des Ecoles d'Architecture d'Europe**. Cette Conférence qui réunit une bonne centaine de doyens, recteurs et coordinateurs de programmes et d'échanges s'est tenue du 4 au 7 septembre 2004.*

*La **Conférence des Directeurs des Ecoles d'Architecture d'Europe** est organisée par **Constantin Spiridonidis** (Grèce), Chef de Projets de l'AEEA, en collaboration avec **Maria Voyatzaki**, Membre du Conseil de l'AEEA. Ces Conférences ont pour vocation de forger un cadre de discussions critiques dans le but de contribuer à l'intégration des Ecoles d'Architecture dans l'enseignement supérieur en Europe.*

*Cette Conférence ne constitue pas un forum auquel soumettre ses travaux, cette Conférence est avant tout un milieu propice aux échanges de vues et dialogues autour des politiques éducatives. La Conférence de cette année, intitulée "**Shaping Architectural Curricula for the European Higher Education Area**", s'est focalisée sur le curriculum, notamment sa structure, et sur le contenu de l'enseignement. Cette Conférence avait pour principal objectif de programmer les procédures de développement d'outils et de mécanismes qui supportent de manière décisive les Ecoles d'architecture dans leurs efforts d'intégration dans l'enseignement supérieur en Europe.*

*Constantin Spiridonidis avait invité le Professeur **Stanford Anderson** (USA) et le Professeur **Kas Oosterhuis** (Pays-bas) à participer à cette Conférence. Le Professeur **Stanford Anderson** est Directeur du Département d'Architecture du MIT. Il a fondé le programme de doctorat/PhD du MIT et*



co-founded the advanced architectural program at MIT – History, Theory, and Criticism of Art, Architecture, and Urban Form (HTC) together with Architecture Historian Henry Milton, and Art Historians Wayne Anderson and Rosalind Krauss. This year **Stanford Anderson** was awarded the 2004 AIA/ASCA Topaz Medallion. On page 32 you can read Stanford Anderson's keynote lecture "Shaping the Curriculum for a European Higher Architectural Education: A Trans-Atlantic View".

This keynote lecture was given by **Stanford Anderson** on the opening night of the Meeting. On page 18 you can read **Kas Oosterhuis'** keynote lecture "A New Kind of Building" presented by **Kas Oosterhuis** on 6. September 2004.

Kas Oosterhuis is a professor of architectural design at Delft University of Technology. He is a partner of ONL [Oosterhuis_Lénárd]. ONL's architectural designs have received several awards and have been exhibited in both museums of architecture and galleries including the 2004 Venice Biennale of Architecture. **Kas Oosterhuis** writes about architecture and architectural matters and has had a number of books and articles published on the subject.

The EAAE General Assembly is according to the traditional practice held in connection with the Meeting of Heads of European Schools of Architecture. This year the EAAE General Assembly took place on Monday 6 September 2004. One of the main items on the agenda was the nomination of the new EAAE Vice-President, **Per Olaf Fjeld** (Norway), who according to the statutes of the EAAE will become the next EAAE President from September 2005. **Per Olaf Fjeld**, Professor and former Rector at the Oslo School of Architecture, Norway, has been an EAAE Council Member since 2002.

Two new EAAE Council Members were also nominated at the General Assembly on 6 September 2004; **Hilde Heynen** (Belgium) and **Ramon Sastre** (Spain). On page 58 you can read more about the two new EAAE Council Members.

On page 51 you can read EAAE President **James Horan's** (Ireland) "Address to General Assembly" and on page 50 you will find the "Treasurer's Report" by former EAAE President **Herman Neuckermans** (Belgium).

aussi son programme de perfectionnement – Histoire, Théorie et Critique de l'Art, de l'Architecture et des formes urbaines (HTC) en compagnie de l'historien de l'architecture Henry Milton et des historiens de l'art Wayne Anderson et Rosalind Krauss. Stanford Anderson s'est vu cette année décerner le médaillon topaze 2004 de l'AIA/ASCA. Voyez en page 32 l'exposé de Stanford Anderson "Shaping the Curriculum for a European Higher Architectural Education: A Trans-Atlantic View".

Stanford Anderson a présenté cet exposé à l'occasion de la soirée d'ouverture de la Conférence. L'exposé "A New Kind of Building", que Kas Oosterhuis a présenté le 6 septembre 2004, est reproduit en page 18.

Kas Oosterhuis est Professeur de Design architectural à l'Université technologique de Delft. Il est également partenaire de l'ONL [Oosterhuis_Lénárd]. Le design architectural de l'ONL, récompensé de plusieurs prix, a fait l'objet d'expositions dans les Musées et galeries d'architecture, dont la biennale d'architecture de Venise en 2004. Kas Oosterhuis écrit sur l'architecture et ses thèmes, et il est l'auteur de plusieurs oeuvres et articles en la matière.

L'Assemblée générale de l'AEEA s'est célébrée comme à l'accoutumée à l'occasion de la Conférence des Directeurs des Ecoles d'Architecture d'Europe. L'Assemblée générale de l'AEEA s'est tenue cette année le lundi 6 septembre 2004. Un des principaux sujets au programme était la nomination du nouveau Vice-président de l'AEEA, Per Olaf Fjeld (Norvège), qui conformément aux statuts de l'AEEA revêtira la charge de Président de l'AEEA à partir de septembre 2005. Per Olaf Fjeld, professeur et ancien recteur de l'Ecole d'architecture d'Oslo, Norvège, est Membre du Conseil de l'AEEA depuis 2002.

L'Assemblée générale du 6 septembre 2004 a nommé deux nouveaux Membres du Conseil : Hilde Heynen (Belgique) et Ramón Sastre (Espagne). Les deux nouveaux Membres du Conseil de l'AEEA vous sont présentés en page 58.

Le Discours adressé à l'Assemblée générale par le Président irlandais de l'AEEA, James Horan, vous est offert en page 50, et vous trouverez en page 51 le Rapport du Trésorier présenté par l'ancien Président de l'AEEA, Herman Neuckermans, Belgique.

In EAAE News Sheet # 71 (Feb. 2005) you will be able to read a full report on the **Meeting of Heads of European Schools of Architecture** by new EAAE Vice-President **Per Olaf Fjeld**.

In the series of "Profiles" of European schools of architecture we have so far dealt with the following schools of architecture: **TU Delft** (The Netherlands); **Politecnico di Milano** (Italy); **KTH Stockholm** (Sweden); **EAPLV, Paris** (France); "**Ion Mincu**" **IMUUAU** (Romania) and **Tampere University of Technology** (Finland). In this issue of the EAAE News Sheet we are going to become acquainted with the **Moscow Architectural Institute (MARCHI)** in Russia. I am very pleased to be able to present an exclusive interview with **Professor Alexander Petrovich Kudryavtsev**, Rector of MARCHI, Moscow, on page 13.

On page 5 you can read about the **EAAE Prize Workshop** taking place in Copenhagen, Denmark, on 25 and 26 November 2004. The workshop is open to all teachers from European schools of architecture. Teachers from American and Canadian schools of architecture are also welcome to participate in the workshop.

The **EAAE Prize Jury** - consisting of **Per Olaf Fjeld** (Norway), **Peter MacKeith** (USA), **Dagmar Richter** (Germany), **Juhani Pallasmaa** (Finland) and **Alberto Pérez-Gómez** (Canada) - will participate in the workshop.

The **EAAE Prize** is organised by EAAE Project Leader **Ebbe Harder** (Denmark) and the prize is sponsored by **VELUX**. **Ebbe Harder** states that the prizes will be awarded at an EAAE event in the spring of 2005.

VELUX is also sponsoring the brand new award: "**International VELUX Award for Students of Architecture**". The award is organized in co-operation with the EAAE and approved by **UIA**. On 1. October ten winners of the award were announced and honoured at a grand award event in Paris, France. The first prize (8.250 Euro) was awarded to **Claes Cho Heske Ekernås** from the **Oslo School of Architecture, Norway**. On page 45 you can read more about the award and the award event in Paris.

On page 9 we re-announce the EAAE conference "**The Rise of the Heterotopia**". This conference

Le Bulletin # 71 de l'AEEA (Février. 2005) vous donnera l'opportunité de lire un rapport complet de la Conférence des Directeurs des Ecoles d'Architecture d'Europe, rédigé par le nouveau Vice-président de l'AEEA, Per Olaf Fjeld.

Notre série de Profils d'Ecoles d'architecture en Europe nous a jusqu'à cette heure fait découvrir les Ecoles d'architecture suivantes : TU Delft (Pays-Bas); Politecnico di Milano (Italie); KTH Stockholm (Suède); EAPLV, Paris (France); "Ion Mincu" IMUUAU (Roumanie) et Tampere University of Technology (Finlande). Le présent Bulletin de l'AEEA nous permet de faire plus ample connaissance avec l'Institut d'architecture de Moscou (MARCHI), Russie. J'ai le grand bonheur de vous présenter une interview exclusive avec le Professeur Alexander Petrovich Kudryavtsev, Recteur du MARCHI, Moscou, en page 13.

Vous pourrez en page 5 en savoir plus sur l'Atelier de l'AEEA qui se tiendra les 25 et 26 novembre 2004 à Copenhague, Danemark. Cet atelier est ouvert à tous les professeurs des Ecoles d'architecture d'Europe. Les Professeurs des Ecoles d'architecture des Etats-Unis et du Canada sont aussi invités à participer à cet atelier.

Le Jury du Prix de l'AEEA – constitué par Per Olaf Fjeld (Norvège), Peter MacKeith (USA), Dagmar Richter (Allemagne), Juhani Pallasmaa (Finlande) et Alberto Pérez-Gómez (Canada) – participera lui aussi à cet atelier.

Le Concours de l'AEEA est organisé par le Chef de projets de l'AEEA, Ebbe Harder (Danemark), et le Prix est sponsorisé par VELUX. Ebbe Harder nous informe que la remise des prix aura lieu au printemps 2005 sous la houlette de l'AEEA.

VELUX sponsorise également un tout nouveau Prix dédié aux étudiants : "International VELUX Award for Students of Architecture". Ce Prix est lancé en coopération avec l'AEEA et approuvé par l'UIA. Les dix lauréats du Prix ont été présentés et honorés le 1er octobre 2004 à Paris, France. Le premier prix (8.250 euros) a été décerné à Claes Cho Heske Ekernås de l'Ecole d'Architecture d'Oslo, Norvège. Quelques détails sur ce Prix et la cérémonie parisienne vous sont présentés en page 45.

Nous avons le plaisir d'annoncer une nouvelle fois en page 9 la Conférence de l'AEEA "The Rise of the

will take place at KU Leuven, Belgium, on 27-28 May 2005.

On page 40 new EAAE Council Member **Hilde Heynen** (Belgium) reports from the latest EAAE/ARCC Conference “Between Research and Practice” which took place in Dublin, Ireland, on 2-4 June 2004.

On page 42 EAAE Council Member (and EAAE News Sheet Editor) **Anne Elisabeth Toft** (Denmark) reports from the **International Design Forum Ulm**. This year the **International Design Forum** took place on 17 September 2004 under the heading “**Unschärfe / Blur**”.

Yours sincerely

Anne Elisabeth Toft

***Heterotopia**”. Cette Conférence se déroulera les 27 et 28 mai 2005 à l’Université catholique de Louvain, Belgique.*

*En page 40 **Hilde Heynen** (Belgique), Membre du Conseil de l’AEEA, nous rapporte ses impressions sur la dernière Conférence de l’AEEA/ARCC, “Between Research and Practise”, célébrée à Dublin, Irlande, du 2 au 4 juin 2004*

*En page 42 **Anne Elisabeth Toft** (Danemark), Membre du Conseil de l’AEEA (et Editrice du Bulletin de l’AEEA) nous fait part de sa visite à Ulm, Allemagne, à l’occasion du **Forum International du Design**. Le **Forum International du Design** s’est déroulé le 17 septembre 2004 sous le titre “**Unschärfe / Blur**”.*

Sincèrement

Anne Elisabeth Toft

EAAE Prize 2003-2005 - Writings in Architectural Education

EAAE Project Leader, Ebbe Harder

How will the demands of the information society and "new knowledge" affect the demand for relevant or necessary "know how" in architectural education?

The EAAE Prize aims to stimulate original writings on the subject of architectural education in order to improve the quality of architectural teaching in Europe.

Organized biannually the competition will focus public attention on outstanding written work selected by an international jury.

The EAAE Prize was first awarded in 1991 and has been sponsored by VELUX since 2001.

The EAAE hereby invites all schools of architecture in Europe and the ARCC member institutions in the USA to participate in the EAAE Prize of 2003-2005.

Ebbe Harder, EAAE Project Leader
The Royal Danish Academy of Fine Arts
School of Architecture
Philip de Langes Allé 10
DK-1435 Copenhagen/DENMARK
Tel.: +45 32 68 60 13
Fax: +45 32 68 60 76
ebbe.harder@karch.dk

European Association for Architectural Education
Association Européenne pour l'Enseignement de l'Architecture

WRITINGS IN ARCHITECTURAL EDUCATION

How will the demands of the information society and "new knowledge" affect the demand for relevant or necessary "know how" in architectural education?

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The EAAE hereby invites all schools of architecture in Europe and the ARCC member institutions in the USA to participate in the EAAE Prize of 2003-2005.

Early October 2003 all schools will receive the competition material, and from October 15 the material and general conditions of the competition will also be available on the EAAE homepage: <http://www.eaae.be>

Deadline for contribution is April 5, 2004

ESSAIS SUR L'ENSEIGNEMENT DE L'ARCHITECTURE

Comment les exigences de la société de l'information et de "nouvelles connaissances" vont-elles affecter la demande d'un "savoir-faire" pertinent et nécessaire dans l'enseignement de l'architecture ?

Le Prix de l'AEAA sollicite des écrits originaux sur le thème de l'enseignement de l'architecture afin d'en améliorer la qualité en Europe. Evénement biennal, le concours attirera l'attention du public sur des travaux d'excellence, sélectionnés par un jury international. Le Prix de l'AEAA, décerné pour la première fois en 1991, est sponsorisé par VELUX depuis 2001.

L'AEAA invite toutes les écoles d'architecture d'Europe et les institutions américaines membres de l'ARCC à participer au Prix de l'AEAA 2003-2005.

Début octobre 2003, toutes les écoles recevront la documentation relative au concours, et à partir du 15 octobre, la documentation et les conditions générales du concours seront également disponibles sur le site de l'AEAA : www.eaae.be.

La date butoir pour l'inscription est le 5 avril 2004.

**EAAE PRIZE PRIX EAAE
2003-2005**
sponsored by sponsorisé par
VELUX

EAAE Prize 2003-2005 - Writings in Architectural Education

EAAE Project Leader, Ebbe Harder

Press Release, 28 September 2004

**Competition for schools of architecture in the EU,
the USA and Canada
Jury meeting in Copenhagen**

On Friday 24 September 2004 the jury of the international architectural competition, **EAAE Prize 2003-2005, Writings in Architectural Education** met in Copenhagen to discuss close to 80 proposals for the future of architectural education in Europe.

A number of well-known international architects met in Copenhagen yesterday to assess the submissions to a very extensive architectural competition. Teachers from schools of architecture throughout Europe, the USA and Canada have been invited to submit their answers to the question of how the information society will affect the demand for relevant knowledge and innovation in schools of architecture.

Close to 80 architects from 23 countries have taken part in the competition, which has been sponsored by the Danish window manufacturer VELUX. The total prize sum offered is 25,000 Euro. The aim of the competition is to develop a clearer understanding of the challenges facing architectural education, in order to further renew and develop it.

“The architects of tomorrow will have to navigate through masses of new information. This means that traditional architectural education is no longer adequate. The aim of the competition is to stimulate ideas for new educational content and a pedagogical profile that will ensure that graduates of architectural degrees are equipped to meet the demands and exploit the possibilities of the information society in order to reach a higher architectural level,” says Ebbe Harder, research director at the Royal Danish Academy of Fine Arts, who is coordinating the project.

On 24 September the five international jury members met in Copenhagen to select 10-15 submissions for the next stage of the competition. The selected participants will be invited to take

Communiqué de presse, 28. septembre 2004

**Concours ouvert aux Ecoles d'Architecture
d'Europe, des Etats-Unis et du Canada
Réunion du Jury à Copenhague**

Le Jury du Concours international d'Architecture de l'AEEA, Ecrits sur l'enseignement de l'architecture, s'est réuni le 24 septembre 2004 à Copenhague pour étudier les quelque 80 propositions reçues sur l'enseignement de l'architecture en Europe dans le futur.

Un certain nombre de célèbres architectes internationaux se sont hier rencontrés à Copenhague pour évaluer les propositions présentées à ce Concours d'architecture de grande envergure. Les enseignants des Ecoles d'architecture des quatre coins de l'Europe, des Etats-Unis et du Canada ont été invités à présenter leurs vues sur l'impact de la société de l'information au sein des Ecoles d'architecture en matière de demande de connaissances et d'innovation.

Quelque 80 architectes en provenance de 23 pays ont participé à ce Concours qui est sponsorisé par VELUX, le grand fabricant danois de fenêtres. Le montant total des récompenses est de 25 000 euros. Le Concours a pour objectif d'apporter une meilleure compréhension des défis auxquels s'affrontera l'enseignement de l'architecture et de contribuer au développement et au renouvellement nécessaires.

- Les architectes de demain devront manœuvrer à travers une profusion de connaissances nouvelles. Ce qui signifie que l'enseignement traditionnel de l'architecture ne suffit plus. L'objectif du Concours est de recueillir des idées, porteuses d'un nouveau contenu et d'un profil pédagogique qui puisse assurer que les nouveaux diplômés reçoivent un bagage suffisamment solide pour mettre à profit les opportunités et les exigences de la société de l'information et pour relever le niveau de l'architecture, nous déclare le responsable du projet M. Ebbe Harder, Directeur de la recherche à l'Académie royale danoise des Beaux-Arts.

Les cinq membres du Jury international se sont retrouvés le 24 septembre à Copenhague pour sélectionner les 10 à 15 propositions qui seront retenues pour le Concours. Les candidats sélectionnés seront

part in an international workshop in Copenhagen on 25 and 26 November, where they will have the opportunity to present and receive feedback on their papers. The winners of the competition will be announced in February/March 2005.

Among the jury members are: the distinguished German architect Dagmar Richter, who received the second prize for her proposal for the construction of the Copenhagen Royal Library in a 1993 architectural competition; the Finnish architect Juhani Pallasmaa, known for his phenomenological approach to architecture, the widely published historian and theorist Alberto Pérez-Gómez from Canada; Professor Peter MacKeith from the USA, who has written extensively on Nordic architecture, and Per Olaf Fjeld, professor and former rector of the Oslo School of Architecture.

The competition which is organised by the EAAE includes 150 schools of architecture in Europe and represents more than 140,000 architecture students. In addition to its own member schools, the EAAE has invited 150 schools in Europe and 140 in the USA and Canada to participate. The EAAE prize was first awarded in 1991 and has been sponsored by VELUX since 2001. ■

invités à prendre part les 25 et 26 novembre à un atelier international à Copenhague, où ils auront l'occasion de présenter leurs propositions et de connaître les réactions. Les lauréats du Concours seront proclamés en février/mars 2005.

Parmi les membres du Jury, citons Dagmar Richter, architecte allemande de renom qui remporta le 2e prix pour son projet de construction vert-de-gris au Concours d'architecture de 1993 sur la Bibliothèque royale de Copenhague, Juhani Pallasmaa, architecte finlandais connu pour son approche phénoménologique de l'architecture, Alberto Pérez Gómez, historien et théoricien canadien auquel nous devons de nombreuses publications, le Professeur américain Peter MacKeith, auteur de multiples écrits sur l'architecture nordique, et Per Olaf Fjeld, Professeur et ancien Directeur de l'Ecole d'architecture d'Oslo.

Ce Concours, organisé par l'AEEA s'adresse aux 150 écoles d'architecture européennes membres de l'Association, qui représentent plus de 140 000 étudiants. L'AEEA a en outre ouvert son Concours à 150 autres Ecoles d'architecture en Europe et 140 aux Etats-Unis et au Canada. Le Prix de l'AEEA a été décerné pour la première fois en 1991, et VELUX en est le sponsor depuis 2001. ■

EAAE Prize 2003-2005 - Writings in Architectural Education

EAAE Project Leader, Ebbe Harder

EAAE Prize 2003-2005 - Selected projects

003, Frank Weiner
Virginia Polytechnic Institute and State University,
USA

004, Irina Solovyova and Upali Nanda
Texas A & M University, USA

008, Kim Sorvig
University of New Mexico, USA

010, Thomas McQuillan
Oslo School of Architecture, Norway

016, Rachel McCann
Mississippi State University, USA

021, Jeremy Till
University of Sheffield, UK

046, Andrew Levitt
University of Waterloo, Canada

055, David Willey
University of Plymouth, UK

069, Thomas Wiesner
Royal Danish Academy of Fine Arts, School of
Architecture, Denmark

075, Deniz Incedayi
Mimar Sinan Fine Arts University, Turkey

Workshop programme EAAE Prize

Thursday, November 25, 2004

9:00-9:30	Registration
9:30-10:00	Welcome by Rector Sven Felding, The Royal Danish Academy of Fine Arts, School of Architecture, and EAAE President James Horan
10:00-10:45	Introduction by Chairman Per Olaf Fjeld
11:00-13:00	Paper presentation and discussion
13:00-14:00	Lunch
14:00-15:00	Keynote speech by Alberto Pérez- Gómez
15:00-18:00	Paper presentation and discussion
19:30	Dinner

Friday, November 26, 2004

9:00-10:00	Keynote speech – Peter MacKeith
10:00-13:00	Paper presentation and discussion
13:00-14:00	Lunch
14:00-15:00	Keynote speech – Dagmar Richter
15:00-18:00	Paper presentation and discussion
19:00-20:00	Keynote speech - Juhani Pallasmaa
20:00	Conference dinner

Saturday, November 27, 2004

Excursion in Copenhagen and surroundings

EAAE Conference 2005

KULeuven, Leuven, Belgium, 27-28 May 2005

The Rise of the Heterotopia and Its Implications for Architectural Education

On Public Space and the Architecture of the Everyday in a Post-Civil Society

This call for papers aims to provoke contributions focusing on the significance of public space today, in view of, on the one hand, recent discourses that lament the 'loss of public space' (Sorkin) and, on the other, contrasting opinions that advocate new forms of public space, located in private spaces for collective use (shopping malls or sports centers) or in alternative spaces such as wastelands or parking lots (Crawford).

Whereas there are serious voices warning of the alarming developments in society at large, which seem to threaten the basic assumptions on which democracy and the welfare state are founded, others tend to take a more optimistic position in accepting the challenge to design for new programs in the realm of leisure, sports, shopping or transportation.

The concept of the heterotopia - a notion introduced by Michel Foucault in the late sixties, however very conspicuously underdeveloped in his own work - takes on a new urgency and relevance in light of contemporary developments and the ensuing debate on public space. The concept of heterotopia seems to offer the opportunity to both recapitulate and redirect the ongoing debate.

The rise of the network society: place and non-place

Michel Foucault introduced the tentative term heterotopia to point to various institutions and places that interrupt the apparent continuity and normality of ordinary everyday space. In contrast to utopia that inverts the normal existing society but does not exist as such, the heterotopia refers to a set of really existing inversions. Because they inject alterity into the sameness, the common place, the topicality of everyday society, Foucault calls these places hetero-topic - "des espaces autres".

When we review all the examples mentioned in his lecture - the school, military service, the honeymoon, old people's homes, psychiatric institutions, prisons, cemeteries, the stage, the cinema, libraries and museums, fairs and carnivals, holiday camps, hammams, saunas, the motel, brothels, the Jesuit colonies, the ship - we get an idea of the vastness of the concept. Foucault's concept of heterotopia opens up a new field, a simultaneously archaic and modern way of organizing space. In the introduc-

tion to his unpublished lecture, Foucault evoked a history of space and pointed clearly to the rise of network space. Today Foucault's analysis reaches its obvious conclusion. Within the network space the heterotopia has to a large extent changed its function. Rather than interrupting normality, heterotopias now realize or simulate common experience of place (common place, everyday topicality) in the non-place of the space of flows. In other words, a first layer of the heterotopia is the tension between topicality and a-topicality, place and non-place.

The reinvention of the everyday: the ordinary and the extra-ordinary

The reinvention of the discourse on the everyday, largely coinciding with the English translation of Lefebvre and de Certeau, is inspired by a discontent both with the elitism of contemporary neo-avant-garde architecture as well as with the shameless commercialization of popular culture. At the same time, the discourse on the everyday is an attempt to counter Foucault's emphasis on the extra-ordinary by mapping the vital potentialities of the ordinary (McLeod).

The concept of heterotopia is positioned between the ordinary and the extraordinary. The question to be asked, however, is whether the discourse on the everyday does not remain an aesthetization of urbanity and whether any attempt towards an architecture of the everyday does not merely reinforce the ever more encompassing simulation of normality. Or, in other words, can the everyday survive today outside of the heterotopia.

The privatization of public space: oikos - agora

The polis, the ideal of the city/state, tries to realize the good life via an equilibrium between oikos (private sphere, household, hence economy) and agora (public sphere, the place of politics). 'Economization' is the erosion of the distinction between these constitutive terms of the polis, as is clear in the term 'privatization'. It is a sure sign of a crisis of 'politics'. The rise of the term 'governance' instead of government is a symptom of this crisis, and 'management' its apologetics. In this context the evident embrace of governance within urbanist discourse appears far less innocent.

In spite of its relation of alterity and deviance, the heterotopia is part and parcel of the polis and of the characteristic set of negotiations between the private and the public sphere, between nature and culture, *zoé* and *bios*, by which the polis is defined. Even the 'heterotopia of crisis' (e.g. the elderly home, the hospital) and the heterotopia of deviance (e.g. the prison) or any heterotopia one can imagine - the beach, the brothel, the cinema, the theater, the mall, the theme park- all of these heterotopias contain a moment of 'catharsis' with respect to the *nomos* of normality (such as the brothel is the natural counterpart to marriage, or the clinic the counterpart to our sporting life). Most heterotopias could be compared to rites de passages and in this function they reinforce the coherence of society. While often particularly exclusive, heterotopias belong to the inclusive character of the polis.

In the post-civil society (Jameson), the heterotopia resurfaces as a strategy to reclaim places of otherness on the inside of an economized 'public' life.

The post-civil society: the camp as paradigm

After the proliferation of heterotopias that provided normality in the (atopic) network space, we now see a proliferation of camp-like situations. Traces of a growing awareness of these new realities are beginning to appear in contemporary theory, architecture and urbanism. The camp, however, we encounter before and after the polis. Before the polis: the encampment figures as the forerunner of the city and indeed of all human settlement as such. After the polis: the camp appears where the polis or civil society is suspended or dissolving, as we witness in the concentration camp, the refugee camp, the transit camp for asylum seekers or illegal immigrants.

The camp is, according to Giorgio Agamben, a space outside the *nomos*, a space that is not like a prison an extension/institution of the law, but rather a space that is extra-territorial to the *nomos*, a space where the law is suspended. While the encampment emerges out of the nature state and moves towards the city, and therefore fulfills a proto-political role, the camp announces the relapse into the nature state and marks the disintegration of society in the state of exception.

The camp is, in other words, the situation in which the division between private and public is suspended. It is the space where the city is annihilated and the citizen reduced to bare life.

Today, we see such situations arise around us in the figure of the illegal immigrant, the people roaming around the closed centre of Sangate and in the extralegal/post-human-right status of the inmates of Guantanamo. In the urban landscape we observe the rise of similar 'terrains vagues' and twilight zones, such as the camp sites where fourth-world people dwell in a 'permanently nomadic' situation.

In that respect both camp and heterotopia are two phases and faces of the after life of the (welfare)state. Integral urbanism was an attempt to control the tools for welfare within the state under the aegis of the plan. In the network society, 'splintering urbanism' has to rely on the creation of heterotopias to sustain its integrating gesture. The camp, in contrast, is the symptom of a postcivil urbanism, which follows the disintegration of the (welfare)state and the economization of politics.

A call for cases

In this colloquium we hope to explore the question of public space, taking the concept of the heterotopia in order to articulate the utopic/dystopic dimension of public/private, topic/a-topi, ordinary/extraordinary contemporary spaces. The notion 'heterotopia' offers a device to reorder the different strata of the current debate and to cut across the deceptively stable divisions that structure these strata.

We invite papers exploring various cases showing the heterotopic and camp-like logic manifest in the contemporary urban landscape. Besides such diagnostic case studies, we welcome more therapeutic approaches. Can architecture and urbanism take a critical stance vis-à-vis tendencies such as the increasing privatization of formerly public spaces, or vis-à-vis the marginalization or even exclusion of certain groups (refugees, immigrants)? How does the profession deal with phenomena like gated communities, transit zones, refugee camps and other effects of globalization? Can the tradition of an emancipating project that fueled so

many discourses on architecture and urbanism in the past be sustained under the growing pressure of capitalist and neo-liberal forces? What is the place and status of gating and gated communities at the crossroads of heterotopia and camp, in the making and breaking of the polis? Is the new fortified architecture a heterotopia or a camp? In short: what is the role of architecture and urbanism in a post-civil society, in a world where the welfare state and the state in general are dissolving? We would especially welcome papers exploring some of following (hetero)topoi:

- **The museum - the theme park**

Are we heading for the 'all-in-heterotopia' where the museum is becoming a theme park, and the theme park a museum, the mall incapsulating both theme park and cultural center?

Under the aegis of fashion, every space becomes exhibitionist space (see Koolhaas' Prada). On the other hand, the museum has proved to be an almost magic lever to revitalize entire neighborhoods, even cities, with Bilbao as its ultimate icon.

- **Squares and terraces**

The mediterraneanization of the city is by now a well known phenomenon. Although it is fashionable amongst academics/intellectuals to look down on this process, one cannot deny that the reclaiming of squares and the blooming proliferation of terraces has injected a new sense of conviviality into formerly derelict areas of the city.

There seem to be two schools: those who favor a grand style and often grand gesture modern/post-modern design and others who choose for a nostalgia low brow renovation of squares and street corners.

- **Parks**

Since Frederic Law Olmsted, parks have been used as decompression machines and space of convivial social control, exposing the urban masses to the socializing effect of civilized leisure and recovery in artificial nature. The

claim that the days of the park are over (Geuze), seems to be defied by the park as the success formula of contemporary urban design.

Furthermore, landscaping is the one happy branch of urbanism (deserving its own name 'landscape urbanism'). As Koolhaas states: "While architecture has to fight hard for every square meter, landscape stretches out over acres. Three dimensional megalomaniac stories that have become dubious in architecture are, as inscription on a patient and tolerant terrain, respectable and plausible."

- **The airport/the terminal**

Not only are cities more and more resembling airports - without center, identity or history, airports also seem to have the ambition to become cities or at least malls.

Is this tendency a desperate attempt at arresting the space of flows by overloading its nodes and terminals with the rituals of place or is it the natural evolution of an alienating eerie non-place, so much invested in the mass of people passing through, that it needs to become a place to stay. Yet another 'all-in-heterotopia'?

- **The fortress**

There is a deep rooted logic of gating and fortressing in our society, caused both by the sharp dualization of society as well as by a tendency to individualism and social distinction. Moreover, beyond the well known phenomenon of gated communities, we see the rise of the aesthetics of the fortress both in individual houses (metamorphosis) as well as in housing complexes. Gating as social defense is redressed with the attributes of disneyfication. In a society in which marketing -the selling of dreams and simulations- is all pervasive, it seems inevitable that dwelling will take on heterotopian overtones.

- **The camp**

There is nothing to be found for architecture in the camp, besides a gruesome confrontation with its abject underside. Even if we are

fully aware that there is no way to make the camp, properly speaking, the object of architecture and urbanism, one of the challenges of the twenty-first century might nevertheless be to think how architecture and urbanism can respond to the rise of camp and camp-like situations, detention centers, refugee camps, transit camps, etc. If we find the camp both before and after the polis, architecture should always try to go beyond the camp - but how?

Time table

- Colloquium's website + call for papers online:
31 July 2004
- Submission of abstracts:
1 October 2004
- Notification of acceptance:
15 November 2004
- Submission of full papers:
1 March 2005
- Colloquium:
27-28 May 2005

Confirmed keynote speakers by 15 October 2004

- Paul Rabinow
- Setha Low
- Robert Jan Van Pelt

**For further information, please
contact:**

Hilde Heynen
OSA - Onderzoeksgroep Stedenbouw en
Architectuur
Departement ASRO KULeuven
Kasteelpark Arenberg 1, 3001 Leuven
Belgium
Hilde.heynen@asro.kuleuven.ac.be

Profile: Moscow Architectural Institute (MARCHI).

Interview with Alexander Petrovich Kudryavtsev, MARCHI, Moscow, Russia.

Moscow Architectural Institute (MARCHI) - State Academy - is the leading scientific and methodological centre in the field of architectural education, science and culture in Russia. It is also the largest school of architecture in the country.

MARCHI is situated in the old part of Moscow. The Institute occupies a complex of buildings on Rozhdestvenka Street 11. The main building is the oldest stone building in Moscow. It was reconstructed in 1892 by the academician of architecture S. Soloviev for the *Stroganov School*. In 1914 the corner building was erected for the training workshops of the school.

The complex of buildings has housed the *First Stroganov State Art Workshops* (1918), the *VKHUTEMAS - VKHUTEIN*; the *Architectural - Building Institute* (since 1930) and the *Moscow Architectural Institute* (since 1933).

Many great architects and famous scholars have taught at MARCHI. Among those are: the Vesnin brothers, I. Golosov, V. Krinsky, N. Ladovsky, K. Melnikov, A. Dushkin, G. Zaharov, A. Bunin, N. Brunov, S. Chernyshov and I. Zholtovsky.

Likewise the Institute has hosted many famous international architects who have lectured at the school. Among those architects can be mentioned: Le Corbusier, Frank Lloyd Wright, R. Neutra, B. Taut, H. Meyer, L. Kahn, S. Calatrava, A. and P. Smitson, K. Tange, Peter Cook, P. Portoghezi, K. Kirohava and R. Meier.

Professor Alexander Petrovich Kudryavtsev, born in Moscow 1937, has been rector of MARCHI since 1987.

Alexander Petrovich Kudryavtsev holds a Ph.D. in architecture. He is a specialist on protection of the historic cultural heritage. He has designed many buildings in Russia and he has widely published material on architectural history and theory. His academic career and attachment to MARCHI goes back to 1977. From 1982-85 he was editor-in-chief of the architectural magazine "*Arkhitektura SSSR*" (*Architecture of the USSR*) and from 1985-87 he was secretary of the *Union of Architects of the USSR*. From 1989-92 he was *People's Deputy of the USSR* and in 1999 he was elected *President of the Russian Academy of Architecture and Construction Sciences (RAACS)*.

Alexander Petrovich Kudryavtsev has received many acclaimed awards. He is a member of: the *Council on Culture and Arts*, the *Commission on State Prizes*, the *Board of the State Construction Committee of RF*, the *Presidium of the All-Russia Society of Preservation of the Historic and Cultural Monuments*, the *Public Council of the Town Planning of Moscow*, the *Presidiums of the Boards of the Union of Architects of Russia*, the *Presidiums of the Union of Moscow Architects*, the *Presidiums of the Russian Society of Civil Engineers*. He is Vice-President of the *European Cultural Society* and Chairman of the *Expert and Consultation Council*.

EAAE News Sheet Editor Anne Elisabeth Toft interviewed *Alexander Petrovich Kudryavtsev*. The interview was made as an e-mail interview in June 2004.

How many schools of architecture are there in Russia, and how many of these schools are situated in Moscow?

In Russia there are only 42 schools of architecture: Five of these are situated in Moscow.

Are most of the schools affiliated to technical universities or to academies of fine arts?

The majority of schools - 30 in number - are affiliated to technical universities. Seven are affiliated to academies of fine arts. We are proud of the fact that MARCHI is one of the few independent schools in the world devoted only to architectural education.

Please tell me about the background of the *Moscow Architectural Institute (MARCHI)*.

Which professional tradition is your school based upon? When was the school established?

Our school has a long history. In 1999 we celebrated the 250th anniversary of the professional architecture education in Moscow. In 1866 in Moscow the *School of Painting, Sculpture and Architecture* was founded - today we would call its alumni *Bachelors of Architecture*. Soon after the revolution, in 1918, the *Higher Art Technical Studios (VKHUTEMAS)* were founded with the general two-year principal department and several faculties, among them that of architecture (it was called the "crown" of the VKHUTEMAS). Their purpose and time of existence almost coincided with those of the Bauhaus (1918-1933). The

newest methods of teaching in the VKHUTEMAS certainly fed the Russian architectural avant-garde of the 1920s and the 1930s.

In 1933 the VKHUTEMAS was divided into specialized higher schools, including the school of architecture. Since then we have been called the *Moscow Architectural Institute*, and in 1995 we were given the status of *State Academy*. So our school is a successor to both the classical educational system such as *Ecole des Beaux Arts* and the avant-garde experiments of the 1920s.

In which way does MARCHI differ from other schools of architecture in Russia?

During the USSR-period, MARCHI was appointed the principal higher educational institution in the field of architectural education, and it developed its model for training teachers and researchers for other higher schools, and helped establish schools of architecture in other republics and cities. Therefore, the model of education in MARCHI basically remains the one accepted by all Russian schools. MARCHI is remarkable for its size. It is the biggest school of architecture in Russia, with the largest highly skilled staff (66% of the teachers have a scientific degree as Doctor or Ph.D.), with the main educational and methodological association of architectural specialties which determine the educational- and scientific-methodological policy, and with several academic councils conferring the higher scientific diplomas. The characteristic feature of MARCHI is the plurality of teaching techniques while preserving fidelity to the VKHUTEMAS principles: openness to trends of world architecture, democratic character of management, and relations between teachers and students.

In which way did the architectural education in Russia change with the collapse of the Soviet Bloc and the fall of the Iron Curtain?

I shall allow myself to declare that the school was ready for changes in the policy of the country. Because of closeness to all Soviet design practices and because foreign architectural publications were actually not subjected to censorship, MARCHI was a meeting place for future architects and foreign masters of architecture. There were some academic contacts with foreign schools, and students and teachers always participated in inter-

national competitions (that is how the well-known movement of 'paper architecture' of the 1980s was born).

All training at MARCHI is based on a competitive system. The education system has been adjusted effectively in relation to the labour market demands; and the model of training 'the architect of a wide profile' has appeared quite vital, capable of introducing new disciplines claimed by society - for example 'Architectural Practice' (management of a project, marketing), 'Architectural Ecology', 'Urban Sociology', etc. For the definition of the competitiveness of this education we invited 'the RIBA Visiting Board' in 1994 in order to accredit the school according to their criteria and received accreditation. We repeated this procedure in 1997 and 2002.

What are the admission requirements for students to enter the Moscow Architectural Institute (MARCHI)?

Strangely enough, we have not yet found a better model for entrance examinations than that which we have used for many years: examinations in artistic drawing - a classic plaster head (6 hours); a composition of geometrical elements (4 hours) and an examination in mechanical drawing - an orthogonal picture of a rather complex axonometry. We assess these tests on the basis of a 10-mark system. Besides, it is necessary to be able to competently write a literary composition and to solve some mathematical problems. Certainly, the entrant should have a certificate of finishing the secondary school. We have approximately 5 applicants per one place.

What does it take to become an architect in Russia?

After the defence of the Specialist's or Master's diploma it is necessary to have several years of practical work under an architect, and to get the certification from a special commission under the Union of Architects of Russia.

Which programs are offered at the Moscow Architectural Institute (MARCHI)?

Today we offer the programs of *Bachelor of Architecture* (4 years), *Architect-Specialist* (6 years),

Architect-Designer (6 years), and *Master of Architecture* (7 years). Within the framework of the program of the *Architect-Specialist*, we offer specializations in architecture of residential and public buildings, industrial buildings, rural areas, restoration and reconstruction, landscape architecture, urban design, physical programming and architectural theory and history.

Have you implemented the directives of the Bologna Declaration in your curricula at the Moscow Architectural Institute (MARCHI)?

Russia has just signed the *Bologna Declaration* in 2003. We have, however, been working on the model of graded education for some years; Bachelor of Architecture - 4 years, and Master of Architecture - 7 years (4+3). I do not think that the model 3+2 is obligatory. The main thing in order to become an architect is to study for not less than five years, as it was decided in the '*UIA/UNESCO Charter for Architectural Education*' adopted in 1996, and to have two years of design practice. Now we work on introducing the system of credits in connection with educational 'units' as a more effective system of 'assessing' the students' work.

Does the teaching take place in units, or are the students given individual project guidance? What is the student/teacher ratio?

Now teaching is conducted in a group system with individual consultations. Since 1988 the teacher/student ratio has been between 1:4 and 1:5.

Is the teaching of IT - included CAD - integrated in the teaching in the studios?

Teaching in information technologies is obligatory for the first two years. As an experiment, it has been introduced in some exercises in a three-dimensional and spatial composition in the 2nd year of study. Beginning from the 3rd year, the student is free to choose between the computer and hand-drawing.

The tendency to use computer technologies is obvious - more than 80% of diploma projects are prepared with their help. A large number of students have their own computers because the number of computers that the Institute can provide is not enough. At the same time we find it

necessary in the teaching to have a reasonable combination of computer technologies and more traditional tools.

In which way and how often is the work of the students' evaluated?

The assessment of the students' work is conducted by a traditional method, and credits and examinations (up to 4 disciplines in a semester) are determining. In the system of architectural design, set assignments are included (up to 3 - 4 in a semester, one of them being a test for the year), two long-term projects, and one or two short-term projects which are assessed on the basis of a 10-mark system.

The diploma projects of the Specialist and the Master (one semester), and the Bachelor (1/2 semester) are assessed on the basis of a 5-mark system by the State Attestation Board which comprises representatives of MARCHI, of other Russian schools, and of practicing architects. The Chairman is always a representative of an external design-or research organization. Term designs are assessed by the teachers at MARCHI and discussed with the students.

Please tell us about the research done at your school. How is it administered and how is the research of the school integrated in the teaching?

Teaching-methodological- and scientific research work was always included in the duties of the teacher (the so-called 'second half of the day'). In the 1990s it weakened considerably. In recent years, however, we see an obvious revival - some textbooks and monographs have been prepared according to contracts with firms and research organizations, and experimental design work has been conducted. A special research department at MARCHI is occupied with this kind of activities, coordinating and planning them for a year ahead. At the Institute there are laboratories for architectural composition, architectural education, and urban environment.

Is there a high rate of unemployment among newly educated architects in Russia?

In general there are no unemployed architects in Moscow. Architects of the newest generation can freely choose their job. Their knowledge of

computer technologies gives them an indisputable advantage over their senior colleagues, who frequently exploit them when they study and work. The students are often forced to work even at very low wages as the state support for students does not suffice.

To which extent does the Moscow Architectural Institute (MARCHI) adjust its teaching to the continuous changes within the profession and in society?

Perhaps changes in Russia do not occur gradually, but by jumps. The first change within the profession was the appearance of 'free' personal studios, and a great number and variety of clients (not only the state) who demanded new knowledge of the project management process and the responsibility of the author.

Today, the guidelines of the school are set from above in connection with Russia joining the *Bologna Declaration* and *WTO*. It is obvious that the implementation will be connected with the adaptation of the common, including European, principles of the traditions and features of the schools of architecture in Russia and Moscow.

Today, the state educational standards have already been in operation in the country for 5 years. During that time up to 30 percent of the curricula has been a so-called regional-and local component - a flexible part which should react to specific changes in market conditions, and design-and research activities.

What is the relationship like between the Moscow Architectural Institute (MARCHI) and the trade and industry? Is there any kind of direct cooperation?

The direct connection is the participation of practicing architects and researchers in the educational process. The subjects of diploma projects are, as a rule, recommended at the request of the school by the Moscow departments responsible for town-planning and architecture; and the results of design diplomas are discussed with the *Union of the Moscow Architects* and representatives of the system in Moscow of architecture and town-planning. In addition to this, the research department of MARCHI conducts design and scientific-experimental work with the help of teachers and

students commissioned by external firms and organizations. In particular, design of the reconstruction of the MARCHI building complexes and adjoining quarters is conducted by the Moscow Architectural Institute. Certainly, our main production is qualified architects. A large majority of the graduates are commissioned by the state; a smaller part is commissioned by organizations-clients, and finally some students are financing their own studies. Many of the architectural and town-planning solutions in Moscow reflect the influence of MARCHI.

Has the Moscow Architectural Institute (MARCHI) established any kind of educational cooperation with other schools of architecture in Europe and the U.S., and if so which ones?

MARCHI uses its favorable geographical position to develop academic contacts both with schools in the West and the East. The connection with the German 'Bauhaus School' in Weimar/Dessau has been a tradition since the 1920s, and so has the connection with schools in France, Italy - especially Venetian and Florentine schools-, the Netherlands, and the USA (the Urbana Champaign Project at Columbia University).

We have also begun cooperation with Harvard University and Pratt Institute. We have had more than 10 years of steady cooperation with Shibaura University in Tokyo. Unfortunately, our attempts to enter a consortium with a number of European schools in the TACIS and TEMPUS programs which we have undertaken regularly since the 1990s have not been crowned with success; probably, because architectural education is not their priority.

What is the structure of the Institute like? Does the academic staff participate actively in school politics?

The Institute consists of 2 faculties: the general and fundamental training (1-4 years) and the specialized training (5-6/7 years). The first faculty provides the program of Bachelor, and the second programs of Specialist-Architect and Architect-Designer, and Master of Architecture. The faculties comprise departments of general and specialized disciplines directed by the Council of the Faculty. The principal directing body determining the

strategy and tactics of the school is the Academic Council together with the Rector who is elected President of the Council for 5 years by the conference of faculty representatives, technical- and administrative staff, and students. Sittings in the Council are open and Rector annually reports to the Council. I believe that by participating in sittings in departments, councils of faculties, the Academic Council, and participation in discussions of projects and scientific subjects, the faculty participates actively in school politics.

What is the average age of the academic staff at the school? (Is it similar at other Russian schools of architecture?)

The average age is 55-56 years. Unfortunately, the tendency towards an ageing teaching staff is obvious. Young architects hardly ever return to the institutes for full teaching work because of low wages. To some extent this lack is compensated for by practicing architects at the age of 35-45 years who understand their responsibility to the profession and work on a half-time basis. Today it is a typical situation for all schools in Russia, not only the schools of architecture.

How many female teachers are there at the Moscow Architectural Institute (MARCHI) (Is it similar at other Russian schools of architecture?)

In total we have about 400 full-time teachers of which about 150 are women.

What is the primary agenda for you and your school in the near future? (Future plans)

I see the future of the architectural education in its integration in science and design.

I hope that departmental barriers will fall; that an opportunity for association of financing sources will appear; and that we shall be able to create a university educational and scientific design centre where students and teachers can take part in all aspects of the innovative process.

I also hope that we will manage to create a European centre of architecture - a kind of post-graduate school - using the advanced international experience within problems of form-making, the

newest geo-information systems and computer technologies; and for the formation of this centre we rely on the aid of the EAAE with which MARCHI has cooperated for many years.

We hope to finish the formation of the centre as well as the reconstruction and restoration of the complex of MARCHI buildings next year. ■

The 7th Meeting of Heads of European Schools of Architecture

Chania, Greece, 4-7 September 2004

A New Kind of Building

Professor Kas Oosterhuis, TU Delft, Faculty of Architecture, Delft, The Netherlands.

Mass-customization

Traditional vernacular building is accomplished by executing the process. There are no intermediate phases like a set of drawings, working drawings, drawings of details. The communication is direct from person to person. In modern computing lingo: through a peer-to-peer wireless sensor network. Peer-to-peer since people connect directly to their own kind, wireless since they are not physically connected, sensor network since they immediately absorb, process and propagate information. People put their minds together, discuss and take action. Exact measurements and other relevant numeric details are decided along the process of building. The end result is unpredictable in detail, but is performed according to an agreed set of simple rules.

Now, at the beginning of the 21st century, machines have taken the place of humans in the production and actual execution of the building elements. And now, based on digital techniques, we are able to establish a very similar peer-to-peer network of machines communicating with each other to produce an endless variety of different building elements, visually rich and complex, but still based on a set of simple rules. Humans connect to the machine-to-machine communication through conceptual interventions and through a variety of input devices. This process is called mass-customization, based on file to factory (F2F) production methods. Now everything is different in absolute size and position, not because of human non-accuracy, but thanks to computational processing of diversity.

Building, as the public knows, is based on the industrial mass-production of building components. The elements are produced as generic material which will be customized later in another phase of the life of the product. The semi-products are produced in a limited range of sizes and measurements, then stored and catalogued, waiting to be taken up by the next party, eventually ending up in an assembly in the factory or on-site as part of a building. The mass-produced elements are categorized and have specialized into discrete classes: doors, beams, windows, columns, tiles, bricks, hinges, wire, piping, etc. Production according to the principle of mass-customization follows a completely different path. There is no catalogue;

the products are produced starting from raw material (which in most cases is still mass-produced) for a specific purpose, to become a unique part in a unique setting in a specific building. That mass-produced part would not fit anywhere else: it is truly unique.

Architecture based on this new paradigm of mass-customization will be essentially different from the art of designing buildings than we have seen until now. Completely new tools for creating diversity and complexity are being developed now to produce visual and constructive richness and diversity, yet based on simple rules being applied on conceptual procedures to generate behavioral relations between all constituting building elements. The driving forces to organize the behavior of the control points of the geometry come from both external and internal forces communicating with the evolution of the 3D model.

Looking at the worlds from within the paradigm of mass-customization (MC), we see that it includes all possible products along the production lines of mass-production (MP). By setting all parameters to the same value we can easily step one level down from MC to MP. The other way round is impossible. MC does include MP, while MP definitely does not include MC. Think of the inhabitants of Flatland, they are not able to experience - let alone conceive - Space. But Space inhabitants do have a notion of Flatland, as a section sliced out of Space.

A true understanding of the peer-to-peer network of machines communicating to machines connected by a flow of information leads to a completely new awareness of the architect / designer. We must go up one level, and start designing the rules for the behavior of all possible control points and the constraints of their behavior, instead of thinking of the rich and complex as exceptions to a given standard. The swarm of control points will be referred to as the *Point Cloud* in the context of this paper. All possible positions of the control points are no longer seen as exceptional states but as implicit possible states in the flocking relations between the points. The Point Cloud may be seen as a sort of Quantum State of geometry. There are no exceptions to a given standard; non-standard computation rules the control points: the exception has become the rule.

Stepping up one level can be understood as stepping out of a world of plans and sections into a truly 3-dimensional space. Now we step out of mass-production and repetition into the realm of mass-customization and complexity, made possible by computational programming. We will step up one level and look at the world from there. As we will see later, I will propose to step up another level to enter the world of swarming behavioral space, leaving frozen 3D space like an experienced time-traveller would, or leaving Flatland like an inhabitant of Space.

Programming the Point Cloud

The recent ONL (Oosterhuis_Lenard) projects like the WEB of North-Holland, the Acoustic Barrier and the Cockpit building are based on the new building paradigm of mass-customization and the new design paradigm of programming soft design machines. Simple rules put into the machines are designed as to create a visually complex geometry. Through a peer-to-peer communication the data are transferred from the 3D model to the executing machines. Cutting, bending, drilling, welding machines are operated by numbers and sequences, which are produced by scripts, routines and procedures written by ONL and executed on the points of the Point Cloud. ONL organises the points of the Point Cloud through a variety of design strategies, using a variety of programming tools. Each project has followed a slightly different path, but shares the principle of programming the Point Cloud.

To fully understand the nature of the Point Cloud I must place it in the context of recent developments outside of the working field of architecture. There are three concepts I want to discuss here, all of them having to do with what you see when you are looking at the world from the level of complexity. *Smart Dust*, *Utility Fog* and *Flocking Behavior*. After that I want to dive deeper into the New Kind of Science as proposed by Stephen Wolfram, and draw conclusions of the implications it has for the architectural programming of the Point Cloud. After that, I want to take you up one more level, and discuss the Real Time Behavior of the recent ONL projects *Trans-Ports*, *Handdrawspace* and the *MUSCLE*. The behavior of the control points has in these projects become a running process, which

keeps running when it has been built. These constructs keep reconfiguring themselves, and produce complexity and unpredictability in real time. These projects are executables.

Building Relations between the Nodes

The concepts of *Smart Dust*, *Utility Fog* and *Flocks* are basically all based on the concept of building local relations. One node looks at the neighbouring node, but has no awareness of the whole Swarm of nodes. Intelligence is not something which can be programmed from the top down in a manner of reverse engineering, but is an awareness that emerges from the bottom up through a process of evolution by building relations between the nodes of the system. Intelligence is not necessarily aware of itself as being intelligent. Intelligence can very well emerge from swarming relatively stupid components. Together they perform as something complex, which humans may interpret as intelligent. Intelligence as I use it here is not seen as human intelligence. It is regarded as emergent behavior coming up from the complex interactions between less complex actuators. It seems to be possible to apply the same definition of intelligence to the functioning of our brains, traffic systems, people gathering, and to the growth and the shrinking of cities. And as I wish to discuss here, also to the relations that are built (both in the design process and in the actual operation of the construct) between all actuators / components assembled into a building.

Building relations in the concept of *Smart Dust* (Fig 1, ref 1) is done through a peer-to-peer wireless sensor network. The concept of *Smart Dust* is developed by Kristofer Pister at Berkeley University and working prototypes are put together. Each micro-electromechanical mote sends and receives signals from and to other micro-sensors. They have a sensor in their back-pack, all of it not bigger than a grain of sand. The sensor is designed to pick up signals, smells, chemical substances, molecules according to the purpose of the *Smart Dust* particle. There is no PCU governing the swarm of *Smart Dust* particles. They basically sense, send and receive, propagating data and information like a rumour propagates through people in society. In the end people are also sensors, senders and receivers. It is my hunch

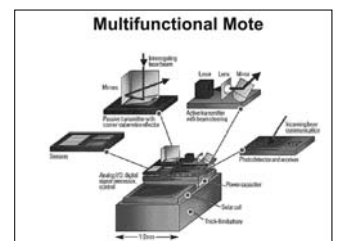


Fig 1: Smart Dust, Kristopher Pister et al 2004, Multifunctional Micro-Mote

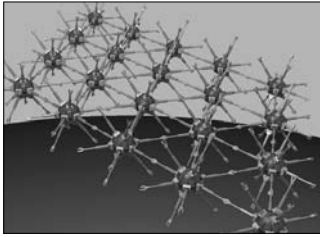


Fig 2: Utility Fog, John Storrs Hall, nano-scale Foglets shaking hands

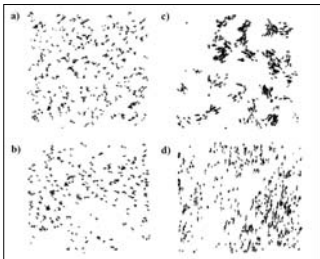


Fig 3: Boids, Craig Reynolds 1987, Flocking Behavior

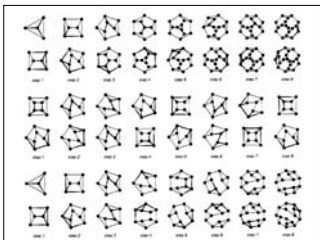


Fig 4A: A new kind of Science, Stephen Wolfram 2002, Substitution system, Simple rules generate complex results

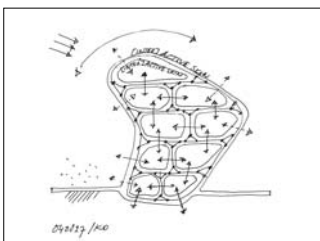


Fig 4B: TORS, ONL [Oosterhuis_Lénárd] 1995-2004, Specialization of the detail

that - after having taken the step to see the world from one or two levels up - that we must start designing from the awareness that buildings and all constituting building elements are sensors, senders and receivers in the end, locally communicating with other specimens of their own and other species. Smart Dust is an operational system, be it that production costs of one mote is still something like 100 \$ instead of the intended 1 \$ in order to make it commercially applicable.

The concept of *Utility Fog* (Fig 2, ref 2) by John Storrs Hall is based on the speculative assumption that we could build programmable molecules. If so, we could programme these Foglets to configure into any shape or substance we might desire. The description of the possibilities goes beyond any SciFi movie you have seen. Since the Utility Fog particles are not visible - you can even breathe them freely in and out - they can spontaneously appear and disappear. They can swap from visible and tangible to non-visible and ephemeral. Utility Fog builds the ultimate bridge between the gaseous and the solid state of stuff. It can transform itself from one state into another based on its programming. Utility Fog is seen by their author as an array of molecular robots looking at each other and eventually connecting to each other to form solid material. No one could predict what it would feel or look like, but in principle it should work. The question here is if we can learn from the concept of Utility Fog when thinking of complex structures for buildings. The way ONL has developed their latest projects shows that this is indeed the case. ONL basically regards each node as an intelligent point which is "peer-to-peer" looking to neighbouring points, and acting according to a simple set of programmed rules to form a complex consistent structure.

The constructive concept of points looking actively to each other immediately brings us to the concept of *Flocks*, *Flocking Behavior* and *Boids* (fig 3, ref 3). Boids as developed by Craig Reynolds are active members of a flock calculating in real time their positions in relation to each other. Simple rules are underpinning their behavior. Each Boid computes a limited number of simple rules: Do not come too close to your neighbors, match your velocity with that of your neighbor, try to move towards the center of the mass of Boids. None of these rules says: form a flock. The rules are entirely local, referring to what a local Boid can see and perform in its immediate vicinity. And yet the flock forms, and is recognizable as a complex whole. The

importance for the procedure of architectural design here is that one does not need to define the exact overall shape beforehand in order to group the individual members together into a consistent whole. Boids can be interpreted as the flocking nodes of a constructive mesh. The designer could work with simple rules starting from the related positions of the nodes to generate the relevant data for mass-customized production. Also the behavior of the nodes might be used to form the shape of the building. Placing a bouncing box around the flock to limit their room to move remains a valid possibility since each building has to take into account the presence of other objects in their urban context.

A New Kind of Building

Building on the existing machines called *Cellular Automata*, Stephen Wolfram (fig 4, ref 4) recently declared his research in this field to form the foundations for a new kind of science, which he has also chosen as the title of his 1 kilo heavy book. Running a cellular automaton is building generation after (line after line) generation following some simple rules. By performing years of runtime on thousands of possible rules, Wolfram found out that some rules lead to visually complex and unpredictable beings. Other rules tend to die out or would lead to uniform and predictable generations. And yet the rules leading to complexity are no more complicated than the other rules. Wolfram expects that these rules form the driving force behind all evolution, be it natural organisms or products induced by the interventions of humans, including scientific theories and mathematics. In theory everything that is complex and behaves unpredictable must be based on simple rules generating this complexity. If this is indeed the case then the development of cellular automata will outrun traditional science as the basis for further progress in all scientific fields, and which is relevant in the framework of this paper, it will turn out to cause a paradigm shift in the way buildings are conceived, the way geometry is generated and the methods by which the constituting parts are produced.

In essence, all points - comparable to the cells in a cellular automaton - are looking to its previous generation to decide what the next step will be, following some simple rules. Only by running the system one can find out to what class of result the simple rules will lead. Designing becomes running

the computation, generation after generation, checking it, making changes, and running it again. Designing becomes to a much larger extent than it ever was an iterative process. In a traditional design process one iterates a limited number of times. When setting up a set of simple rules in a computation machine, one iterates in real time, that is many times per second. In turbo lingo this is designing with the speed of light, this is designing like a Formula 1 driver. Designing with rules, algorithms and with running the process builds the foundations for a new kind of building. These buildings are based on the behavior of an intelligent flock of swarming points, each of them executing a relatively simple rule, each of them acting according to local awareness of their immediate environment.

Specialization of the Building Detail

Local rules executed by the nodes do not only create their behavior, but also the complexity of their configurations. The nodes evolve through running substitution systems, following simple rules such as: substitute this node by 3 nodes with small distances between the 3 new nodes. This leads to a local specialisation of the node. Or in architectural terms: to the building detail. Building details need more points, and those new points may be generated by a script describing some simple rules executed on the nodes. In the case of the *Acoustic Barrier* (fig 5, ref 5) each node of the Point Cloud has been multiplied to hundreds of new points in order to describe the geometry and to produce the data needed for the production of all thousands of unique elements. It may be obvious that some of the data received by the script come from the behavior of the points of the over-all Point Cloud, and that other data used in the script come from the top-down styling interventions of the designer, from the characteristics of the applied materials, from structural calculations and from a variety of environmental constraints. Thus the complex swarm of flocking particles is evolving until a decision has been made to produce them.

Reading the *Scientific American* (SA) regularly as my favourite architecture magazine (I do not read traditional architectural magazines since it is my strong belief that you have to experience the built reality architecture of your fellow architects in order to understand the essence of it, and read their theoretical texts) I stumbled upon an article

on the specialisation of skin into hair (fig 6, ref 6). This seemed to resonate well with my attitude towards the specialisation of the node into the detail as ONL has developed and built the last few years.

Hair and skin seem to be two completely different discrete elements, eventually assembled and cooperating as 2 separate families of elements, similar to embedding the headlights of a car in the car body. But where did the hair come from, when did it start to be a hair? The theory as described in SA speculates on the concept of the specialization of the skin into a folded rim. This folded rim proved to have qualities which remained in the process of evolution. Then in the deepest caves of the rim a new micro-climate arose, where certain cells would become harder but yet kept growing and evolved into something hard sticking out of the skin. It soon became clear that a hair had advantages for protecting the skin against environmental conditions, and on its evolutionary path skin folded into hair on many parts of the body.

Replace now the cells by the nodes of a construct, and replace hair by the building detail. This is exactly what happens during the evolution of the 3D model of ONL projects like the WEB, the Acoustic Barrier and the Cockpit. Just like hair covers the body in principle in most places, the specialised node in the form of the building detail is in principle present where it is useful. Basically in all places the specialization from node to detail is everywhere the same, but circumstantial differences in orientation create the variety of appearances of the specialised detail. Technically speaking the detail is fully parametric; its parameters change with the changes in orientation. The end result is that of a visually rich complexity. Not a single detail out of hundreds (WEB) or thousands (Acoustic Barrier) is the same. All are different, and that illustrates the way we look at the world from one level up.

The detail of the WEB (fig 7, ref 7) is directly derived from the Point Cloud organised according to a icosahedron mesh mapped on the double curved NURBS surface. Just like needles stuck into a needle cushion, ONL generated normals perpendicular to the surface pointing inward. This action doubled the number of points and generated a new Point Cloud. The points are instructed to look at their immediate neighbor and construct flat planes between the double set of points. These planes are given a thickness, and that leads to

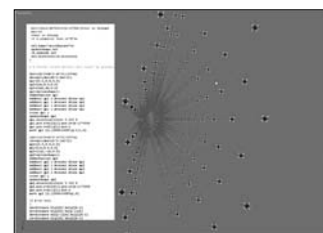


Fig 5A: Acoustic Barrier, ONL
[Oosterhuis_Lénárd] 2004, Point Cloud and generic script



Fig 5B: Acoustic Barrier, ONL
[Oosterhuis_Lénárd] 2004, File to Factory process of Mass-Customization generates 10.000 different nodes



Fig 5C: Acoustic Barrier, ONL
[Oosterhuis_Lénárd] 2004, Building site progress, 15 September 2004, the Cockpit will connect to the left end



Fig 5D: Cockpit Hessing ONL
[Oosterhuis_Lénárd] 2004, Specialization of group of points to form the Cockpit

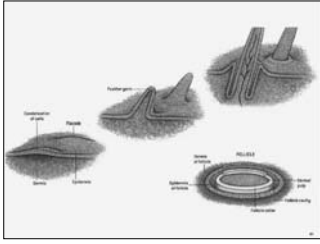


Fig 6: Specialization from skin into hair, Scientific American, March 2003

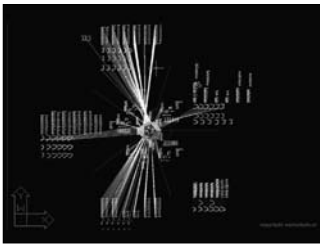


Fig 7A: Web of North-Holland, ONL [Oosterhuis_Lénárd] 2002, Autolisp routine for F2F process

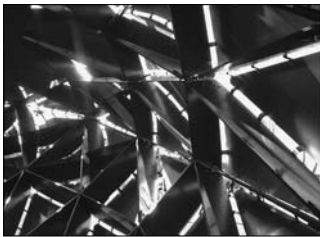


Fig 7B: Web of North-Holland, ONL [Oosterhuis_Lénárd] 2002, Generic parametric detail



Fig 7C: Web of North-Holland, ONL [Oosterhuis_Lénárd] 2002, Floriade World Flower Exhibition, Precision landing of spaceship

another doubling of points. From there the bolted joints are developed, leading to another multiplication of the total number of points needed to describe the geometry and hence to send those data to the cutting machines. By receiving data from interventions by the designer, in the manner of cloning and adding points according to a simple local procedure, the detail evolves from the node.

Since the doubling of the nodes is not executed along parallel lines, the connecting planes are placed at an angle in relation to each other. This leads to an evolutionary constructive advantage since the fold increases the strength of the folded plates. It turns out that with this constructive parametric principle, ONL can virtually construct the support structure of any complex double curved surface, no matter if the curvature is round and smooth or sharply folded, no matter if the surface is convex or concave. The parametric detail of the WEB counts for a major invention in the construction technique for double curved surfaces. Moreover, it immediately connects the styling of the surface to the construction and the manufacturing of it. Architecture, construction and manufacturing are one, in much the same way as body, skin and hair are one.

The Point Cloud of the Acoustic Barrier is generated through a different procedure than was used for the WEB. A long-stretched NURBS surface on both sides of the barrier is bombarded with 10.000 parallel lines. The 20.000 intersection points form the nodes of the Point Cloud. Executed on the nodes a number of scripts are evolved to develop the detail, and to generate the data needed for the production of the 40.000 unique structural members and the 10.000 unique triangular glass plates. By no means could this have been performed by traditional drawing techniques or by traditional production methods.

The Point Cloud of the Cockpit is directly related to the Point Cloud of the Acoustic Barrier. The stretched volume of the barrier pumps up so as to give space to over 5000m² floor surface for the Rolls Royce garage and showroom. The points are controlled along supple curves, which in their turn are controlled by a single reference curve, built in parametric ProEngineer software. Inside ProE ONL has applied a "pattern" for the parametric detail using the points on a surface.

The architectural, structural and production concept of the Acoustic Barrier means another

major innovation. ONL has proved in close cooperation with the steel manufacturer Meijers Staalbouw that within a regular budget, large complex structures can be built and managed without the interference of a general contractor. Thanks to the direct link between the well evolved 3D model and the manufacturing, thanks to connecting the design machines to the production machines through scripting based on simple rules, ONL has proved that a complex building can be developed as an intelligently engineered product.

Nature and Products are Computations

Based on my experiences with building the WEB, the Acoustic Barrier and the Cockpit, I now strongly believe that all of nature, and all evolution of products are the result of a complex set of simple computations. Computations can be seen as building relations between nodes applying simple rules. The relation can vary from tracing a line (shortest connection) to exchanging data in real time (Smart Dust).

The making of architecture is setting up a set of computations. ONL has a definite preference for working with raw products like sheet metal. The WEB is completely made out of sheet metal, both steel for the construction and Hylite aluminium for the cladding panels. The *TT Monument* (fig 8, ref 8) is made exclusively from very pure cast aluminium. The more ONL can penetrate the F2F process into raw material, the simpler the rules can be to generate the outcome of the design and manufacturing process. Then the outcome of the process can be based on simple rules generating visual complexity, which is highly appreciated by the public since it feels rich and communicates the feeling of freedom.

While everything we see around us in every room, in every car, on every street, in every city is based on simple computations creating complex behaviour, it is virtually impossible to trace back the rules.

The only way to find out is to run the system, to design a system which is based on simple rules generating complexity. This awareness potentially turns designers into researchers. Designers must set up systems and run the systems in order to perform. Performative architecture brings the architect and the artist back in the genetic center from where everything we see around us is generated.

Buildings are *Complex Adaptive Systems*. This means that building relations between the nodes represent only one class of relations among many other possible and necessary relations. To evolve something as complex as a building involves many truly different actors. It is not just one system that runs in real time. It must be seen and designed as a complex set of many interrelated systems, all of them performing simple rules. In something as complex as a building, the nodes do not only communicate to other nodes, but even more to other product species. They will receive information from other systems as well, and include those data in the processing of the information, and in their behavior. In other words, a Boid is not moving in an empty world, a Cellular Automaton cannot live as an isolated machine, Smart Dust particles do have contact with other systems. All machines feed on information, and all machines produce information of some sort. All machines are a small player in a complex structure of many interacting machines. But the necessity remains that in order to see the world from the next level, designers must start from simple rules placed in a complex environment rather than starting from a superficially complex structure without a clear concept of how to generate the data needed for customized production.

In the end we must think of building and evolving networks relating all the different players in the dynamic process of the evolution of the 3D model. Each player in the process can be seen as having its own specific view on the data. The different constituting elements of the building have different views on the evolving 3D model. Each of them sends signals to the model which receives the signal, processes it and acts accordingly. From other disciplines the model would receive another class of signals leading to adjustment of the model for completely different reasons. In essence this awareness leads to a process of *Collaborative Design and Engineering*. All players in this process - people, materials, forces, algorithms, money and energy alike - are in their own way connected to the evolutionary 3D model. Each of them performing some simple set of rules, without complete awareness of what the other parties are doing or are capable of. They all contribute from their own systems to the complex set of related systems as a whole. In this sense, even a traditional building process behaves like a swarm. But now we can learn from the new kind of science that we must build design processes on swarming intelligent particles in the Point Cloud communicating

with each other. As humans we must learn to relate to the dynamics of super-fast real time computational processes. We must build the computational tools for Collaborative Design and Engineering in order to meet the rich expectations created by looking at the world from one or two levels up.

Based on my work with the *Hyperbody Research Group* at the TU in Delft, which I will discuss later in this paper, I have started the *Protospace Lab for Collaborative Design and Engineering*. We are now entering our second operational year, *Protospace 1.2*. Next year we hope to continue with *Protospace 2.0* (fig 9, ref 9) in the resurrected WEB which is intended to be placed right in front of the Faculty of Architecture.

One of the issues we are dealing with is how to develop the design in collaboration with other disciplines (construction, ecology, economy) and with the client from the Point Cloud. The Point Cloud is the raw design material, comparable to the Foglets of the Utility Fog, comparable to the Smart Dust particles and comparable to Neumann's Cellular Automata. Starting from this universe of particles we can start building rules and watch the worlds develop.

From the Point Cloud to the Soap Bubble Construct

Wolfram's *New Kind of Science* includes studies of substitution systems for the evolution of networks. The building of networks is a very appropriate tool for organizing the points of the Point Cloud. The notion of the network can almost immediately be translated into the constructive system of a building. The rule starts as: replace the one point of the T-crossing with the 4 points of a tetrahedron. Make sure that the distance between the 4 new nodes are substantially smaller than the distance between the primary nodes of the constructive system. Repeat this process with slightly adapted rules to organize the number, the direction and the positions of the new generations of the node. In this way the new generations are nested in or patterned on the 3D array of primary nodes.

Repeating this procedure along the same substitution rule generates a 3D model resembling a soap bubble structure with smooth rounded transitions from floor to wall and from wall to roof. In fact the connection between floor and roof becomes completely equivalent to the connection between



Fig 8: TT Monument, ONL [Oosterhuis_Lénárd] 2002, Simple rules for generating the complex surface

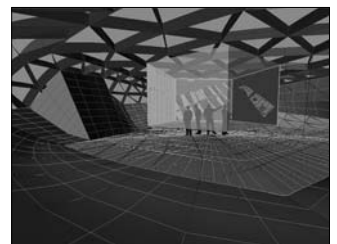


Fig 9: Protospace 2.0 in the WEB, ONL [Oosterhuis_Lénárd] 2004, Delft University of Technology, Laboratory for Collaborative Design and Engineering [CD&E]



Fig 10: Handdrawspace, Architecture Biennale Venice 2000, Interactive painting

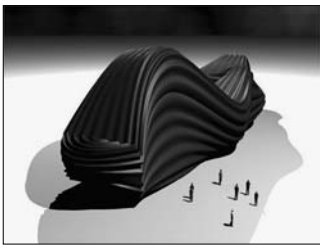


Fig 11: Trans-ports, ONL [Oosterhuis_Lénárd] 2000, Architecture Biennale 2000, Programmable architecture

wall and roof, between wall and another wall. The complete structure of a multi-storey building can thus be developed from one universal Point Cloud of structural nodes, each of them specialized into the building detail via a limited number of simple rules.

Point Clouds Running in Real Time

For the Architecture Biennale, ONL created the *Handdrawspace interactive painting* (fig 10, ref 10), one of the worlds running in the installation *Trans-Ports*. This work shows with what material ONL is redefining art and architecture. ONL uses game development software (Nemo then, Virtools now) to run the system. Games are by definition running in real time, the game unfolds, the game is played by the rules. Game software is also capable of setting up multi-player worlds, which promise to be very appropriate for the process of Collaborative Design and Engineering.

In *Handdrawspace* particles are continuously emitted from invisible 3D sketches. The number of particles, the size of the particles, their position in the universe and the colours are input values set through infrared sensors by the visitors walking around in the central space of the installation. The people connect to the Point Cloud universe. The always changing values for the particles make sure that the same configuration will never be repeated. Each time one visits the *Handdrawspace Universe* one experiences a fresh unique world. The outcome of the real time computation is rich and complex, and never predictable in detail. The people walking around step by step learn how to cooperate with the running system: they teach themselves how to play by the rules (without changing them). Some people watch the running environment as if it were an instant movie, others involve themselves actively and change the course of the universe.

Now extrapolate this concept to the realm of architecture. When we can involve the very movements of people in the running process of architecture itself, we are really changing the static foundations that architecture has been built upon. And when we can involve the changing circumstantial conditions of the weather and other contextual data into the running process of the building itself, we can start looking at the world from yet another level. Then we are at least two levels up from where we are now. Extrapolating *Handdrawspace* into archi-

tecture leads to a major paradigm shift in the collaborative evolution of the 3D model, and it leads in the same manner to a major paradigm shift in the way we connect to buildings as running processes.

Looking at the world from there means looking at the Point Cloud as a swarm of intelligent beings communicating with each other in real time and all the time, as long as it takes them to live their process. The installation *Trans-Ports in self-explanatory mode* (fig 11, ref 11) gives us another clue to build the relations between the points themselves, between the people among themselves, and between the people and the points. People and points are two different Point Clouds interacting with each other. *Trans-Ports self-explanatory mode* introduces a third active Point Cloud in the form of the pixels mapped as information on the interior skin. These pixels can be seen as a Point Cloud which can be programmed to communicate many visual complexities ranging from letters and language through signs and images to movies and real time web-cams connected to other active environments.

Walking around in *Trans-Ports* changes values of the positions of the nodes in the construction. The nodes inter-connected by a building block called *Cool Cloth* bought by ONL via Internet from an Australian gamer. The algorithm of *Cool Cloth* organises their nodes in a 7x7 frequent mesh in such a way as to simulate the movements of a waving flag. ONL connected the active flag mesh to a shape which recalls that of the Saltwater pavilion, a pumped up tunnel body with open ends.

While the nodes of *Trans-Ports* communicate through *Cool Cloth*, the interaction with the users is built by ONL through an MIDI building block especially developed for *Trans-Ports*. Triggering the sensors is translated into MIDI numbers (between 0 and 128) which are inked to certain actions of the connected node-structure. ONL has programmed the actions in such a way that all actions can take place simultaneously, leading to complex behavior which never repeats itself.

Looking at the *Trans-Ports* machine in operation, one gets the feeling that it displays free will, a will of its own. Since the free will of people is in the end the result of a complex set of in itself simple rules being executed by the human brain in close cooperation with the human body, it seems perfectly OK to postulate that it is indeed a simple

form of free will. It is unpredictable for the people who have scripted it, and unpredictable for the people playing with the running system. If they are not the ones predicting what *Trans-Ports* will do exactly, it can only be the running system called *Trans-Ports* itself that decides in real time. The *Trans-Ports* machine digests the randomness of the people navigating in the installation arena.

For ONL *Trans-Ports* has become an anchor point for Programmable Architecture. From then on ONL was ready to lift the conceptual designers' mind up to the next level, to the level of all possible interactions between all players in the game of building and architecture. Looking at the world from there no building can be seen as static: they all move, be it that most of them are extremely slow and extremely stupid. Since 2000 ONL has embarked on an architecture where all players (including all building materials) are seen as potential senders, processors and receivers of information, and where all players communicate with members of their own flock and with other flocks in real time.

MUSCLE at Non-Standard Architectures

Built especially for the NSA show in Paris for a budget of EUR 70.000,- ONL has applied the knowledge of the theoretical vehicle *Trans-Ports* into a working prototype called the *MUSCLE* (fig 12, ref 12). The *MUSCLE* consists of 72 pneumatic muscles connected to each other forming a consistent mesh wrapped around a blue inflated bubble. In this prototype for a programmable structure it is not the nodes which are informed to move but the connecting muscles. Variable air pressure is sent in an endless stream of milliseconds pulses to each individual muscle. When air pressure is pumped into the muscles they become thicker and shorter (muscles are a product of FESTO). When air pressure is let out of the muscles again they relax and regain their original maximum length. By varying the air pressure in real time (which in our physical world means: many times per second, and per se not absolutely continuous) for each individual muscle, the Point Cloud of nodes starts moving like the birds in a swarm.

The real time Virtools game as developed by ONL together with student-assistants of the HRG sends out signals to the I/O boards, which are connected to the 72 valves opening or closing the airlocks. The *MUSCLE* game graph will also receive input

in real time from 24 sensors on 8 sensor boards attached to 8 nodes of the constructive muscular mesh. The public can touch the sensors (infrared sensors, touch sensors and proximity sensors) so as to interfere with the running system of the *MUSCLE*.

The flock of muscles is programmed in such a way that all muscular actuators cooperate to perform a change. It is impossible for one muscle to change place without cooperating with the other connected muscles. Programmed by assembling the graphs in the Virtools software the nodes are set to look at each other when changing position. The change is communicated to the neighboring nodes. From there the desired length of the connecting muscles to accurately perform the displacement of the nodes is calculated. The calculation is based on experimental values found by testing the system with the chosen air pressure, the chosen sizes of the air pressure tubes, and the chosen capacity of the valves.

The nodes are looking to each other all the time. While the muscles are changing their lengths, the *MUSCLE* is hopping, twisting, bending and rotating constantly. As long as the program runs and the air pressure holds, it is alive. The *MUSCLE* is ONL's first materialized construct as a running system acting out of its own free will and at the same time interacting with the public. The process of interaction can only take place when there are at least two active parties involved, when there are at least two running systems communicating with each other. The *MUSCLE* is one running system, the human person another, both with a will of their own.

The *MUSCLE* is a "quick and dirty" built prototype for the *New Kind of Building* as introduced in the title of this paper. This new kind of building is not only designed through computation, it is a computation. The *New Kind of Building* never stops calculating the positions of its thousands of primary and its millions of secondary nodes, based on input values from both the users of the building and from environmental forces acting upon the structure. The *New Kind of Building* is a *Hyperbody*.

911 Hypercube

Asked by Max Protetch to contribute to the Ground Zero exhibition showing the architects



Fig 12 *MUSCLE*, ONL [Oosterhuis_Lénárd] 2004, Non-Standard-Architectures, Centre Pompidou Paris, Interactive Installation with 72 actuators

response to the 911 event, ONL proposed a large fully programmable cubic volume, a *Hypercube*. ONL proposes here an *Open Source Building* approach, in contrast to the defensive *Pavlov* reaction the US took as their policy. Only by setting up an open political system based on mutual respect one can build a society which is not based on threat, hate or fear. To this open global society belongs an open global architecture: an architecture which is a running process and which feeds on streaming information from all sides of the globe. ONL came up with a 3D lattice structure where all structural members are data-driven programmable hydraulic cylinders. The pistons act as actuators for the data-driven building. If all pistons are at their extreme position, the building can shrink 50% of its size in all three axes. As a net result the building can shrink or expand to 8 times its original volume.



Fig 13A: 911 HYPERCUBE, ONL [Oosterhuis_Lénárd] 2002, Max Protetch Gallery New York, Open Source architecture, March mode



Fig 13B: 911 HYPERCUBE, ONL [Oosterhuis_Lénárd] 2002, Max Protetch Gallery New York, Open Source architecture, August configuration

The *911 Hypercube Building* (fig 13, ref 13) responds to changes triggered by its users, and also proposes changes by itself according to a set of simple rules generating a complexity of possible configurations. The *Hyperbody* would also respond to changing weather conditions, to the behavior of people in the street, and to signals and patterns received from other buildings and other information processing vehicles from all over the world. The *911 Hypercube* is designed to be a giant interface between many different behavioral swarms, ranging from people from any culture to other built structures, both ephemeral (programs, organizations, the Internet) and tangible (buildings, cars, microwaves, air conditioning, cell phones) information processing machines. The presentation of the *911 Hypercube* comes in 12 modes, corresponding to the 12 months of the year, 12 exemplary types of weather and 12 typical NY events.

Peer-to-peer architecture means communicating between equivalent computing machines. Just like in *Smart Dust* we look at the nodes of the *911 Hypercube* as small computing devices. Some form of intelligence has been built into the node. The nodes do at least perform some form of sensing, processing and propagating of signals. They send signals to the actuators, the hydraulic cylinders. Thus the construction of the *911 Hypercube* is a peer-to-peer network. People can be peers, spaces can be peers, they all connect in similar peer-to-peer networks. A simple conversation between people establishes a peer-to-peer communication. It is actually this basic level of communication I

am considering when thinking of programmable pro-active hyperbuildings.

Protospace 1.1 Demo

Now I have explained the nature of the *New Kind of Building*, and looking at the world from there I want to discuss how the different disciplines might work together in order to get there. At the DUT my HRG has built a first rough concept for the *Protospace 1.1 Demo* (ref 14). As in a complex set of peer-to-peer networks working inside Protospace the various disciplines want to communicate in their own way with their own kin. In a process of *Collaborative Design and Engineering* one wants to express oneself to the highest level of knowledge and intuition of one's discipline. One expert in a specific field does not want to limit him/herself to constraints set by other disciplines which are either "not obviously" or "obviously not" relevant to one's own discipline.

The HRG has built a simple demo where the different players in the evolution of the 3D model each have their own view on the 3D model. For that I have chosen the role of the stylist, the construction engineer, the ecologist, the economist and the tourist; each of them actually sees the 3D model differently. The stylist sees a surface model which can be shaped, the construction engineer sees nodes and connecting members, the ecologist sees the surfaces separating different micro-climates, the economist sees numbers and spreadsheets, and the tourist navigates through the model as it will appear visually.

Each of the players sees something different but is still looking at the same thing. It is important that (s)he sees the essence of his/her own disciplines since that effectively shows the working space where (s)he is authorized to propose changes. Each discipline has another view on the same thing, just like every single person looks differently at the same scene. Ask two people to describe what they have seen, and you end up with two different stories. But still they were watching the same scene.

Similar to the birds in a flock, similar to the behavior of cars on the highway, similar to people in a meeting around the table, the experts in *Protospace* are looking to each other to adjust their positions in real time, and at the same time they are actively participating in the developing scene. In *Protospace*

one is looking at the 3D model through his/her own pair of disciplinary eyes, while the other players may have a different look at things. The central theme of building tools for *Collaborative Design and Engineering (CD&E)* is to develop the 3D model by focussed disciplinary input, synchronous with the input of the other disciplines. The ultimate goal of Protospace is to improve the speed and quality of the design process based on parallel processing of the knowledge of all disciplines involved from the very first stages of the design.

The players will have immediate insight in the nature of the changes that the other party is putting through. And it is then up to the flock of players to decide whether these changes are improving or deteriorating the 3D model. To facilitate this, the HRG is working on intuitive validation systems to validate the changes that occur in the *CD&E process*. None of the disciplines takes the absolute lead. Just like in the peloton of bicyclists, the players lead alternately to go as fast forward as possible as a swarm as a whole. And to be perfectly honest, just like in a real tournament someone's contributions will turn out to be advantageous and respected, and this person will eventually connect his/her name to the project.

It is very well justified to compare the process of *CD&E* to a game which enfolds. The rules of the game are set from the beginning. The players play by the rules. Good players make an interesting game. Inexperienced players make a boring game. The questions which arise here are: who makes the rules? The architecture of any outcome of the game resides inside the rules. Simple strong rules create a higher form of complexity than shabby rules. Good architecture builds upon the strength of the set of rules. The true game of architecture in a *CD&E* setting creates situations where the rules are verified, tested and eventually improved. Only then can one speak of a true evolution of the 3D model - as opposed to enrolling and developing. The one who improves the project rules can be any player at any time in the process of *CD&E*.

Conclusion

Architecture has become a rule-based game, played by active members of a flock, communicating with other swarms. As proven above this is true for the F2F process of mass-customization, it is true for the *New Kind of Building* based on *Real Time Behavior (RTB)* of programmable pro-active struc-

tures, and it is true for the interactive process of *CD&E*. To be able to develop the F2F process of mass-customization one must step one level up and look at the world from there. Not looking from the top down, but from within into the new dimension of complexity. To be able to deal with the RTB of programmable constructs, one must step up another level and look at the world from the point of view that all nodes are executing their systems in real time and communicate in real time to their own kin and other species. And in order to be able to get there - two levels up - one needs to beam oneself up into the running process of *CD&E* and look at the world from within the process. The information architect works inside evolution.

To summarize the attitude of ONL in the design and production process of the New Kind of Building:

A: One level up to Mass-Customization (MC):

- MC does not mean a single repetitive component in the built structure
- MC includes traditional mass-produced (MP) building, while traditional building excludes MC

ONL achieves MC by:

- Developing the generic parametric detail
- Establishing the File to Factory (F2F) process

MC and F2F are based on:

- Point Cloud
- Scripts, routines and procedures to instruct the control points

B: Two levels up to Real Time Behavior (RTB):

- Constructs are developed as running processes
- The building reconfigures itself constantly
- RTB includes traditional static architecture, while traditional architecture excludes dynamic RTB

ONL achieves RTB by:

- Defining building components as actuators
- Feeding the actuators with data in real time
- Relating the actuators to the game program

RTB is based on:

- Swarm behavior
- Game Theory
- Collaborative Design and Engineering (CD&E) ■

Notes and References:

pp. 28-31

Notes and References:

1. **Smart Dust:**

B.A. Warneke, K.S.J. Pister, *An Ultra-Low Energy Microcontroller for Smart Dust Wireless Sensor Networks*, Int'l Solid-State Circuits Conf. 2004, (ISSCC 2004), San Francisco, Feb. 16-18, 2004.

"The goal of the Smart Dust project is to build a self-contained, millimeter-scale sensing and communication platform for a massively distributed sensor network. This device will be around the size of a grain of sand and will contain sensors, computational ability, bi-directional wireless communications, and a power supply, while being inexpensive enough to deploy by the hundreds. The science and engineering goal of the project is to build a complete, complex system in a tiny volume using state-of-the art technologies (as opposed to futuristic technologies), which will require evolutionary and revolutionary advances in integration, miniaturization, and energy management."

Website:

robotics.eecs.berkeley.edu/~pister/SmartDust/

2. **Utility Fog:**

Utility Fog: The Stuff that Dreams Are Made Of
By J. Storrs Hall, Research Fellow of the
Institute for Molecular Manufacturing.

"Imagine a microscopic robot. It has a body about the size of a human cell and 12 arms sticking out in all directions. A bucket-full of such robots might form a 'robot crystal' by linking their arms up into a lattice structure. Now take a room, with people, furniture, and other objects in it — it's still mostly empty air. Fill the air completely full of robots. The robots are called Foglets and the substance they form is Utility Fog, which may have many useful medical applications. And when a number of utility foglets hold hands with their neighbors, they form a reconfigurable array of 'smart matter.'"

Website:

www.imm.org

3. **Boids:**

Reynolds, C. W. (1987) *Flocks, Herds, and Schools: A Distributed Behavioral Model*, in *Computer Graphics*, 21(4) (SIGGRAPH '87 Conference Proceedings) pages 25-34.

"The aggregate motion of a flock of birds, a herd of land animals, or a school of fish is a beautiful and familiar part of the natural world. But this type of complex motion is rarely seen in computer animation. This paper explores an approach based on simulation as an alternative to scripting the paths of each bird individually. The simulated flock is an elaboration of a particle system, with the simulated birds being the particles. The aggregate motion of the simulated flock is created by a distributed behavioral model much like that at work in a natural flock; the birds choose their own course. Each simulated bird is implemented as an independent actor that navigates according to its local perception of the dynamic environment, the laws of simulated physics that rule its motion, and a set of behaviors programmed into it by the "animator." The aggregate motion of the simulated flock is the result of the dense interaction of the relatively simple behaviors of the individual simulated birds."

Website:

www.red3d.com/cwr/boids

4. *A New kind of Science*, S. Wolfram, Wolfram Media, Inc., 2002, ISBN 1-57955-008-8

"But my discovery that many very simple programs produce great complexity immediately suggests a rather different explanation. For all it takes is that systems in nature operate like typical programs and then it follows that their behavior will often be complex. And the reason that such complexity is not usually seen in human artefacts is just that in building these we tend in effect to use programs that are specially chosen to give only behavior simple enough for us to be able to see that it will achieve the purposes we want."

Website:

www.wolframscience.com

5. *Acoustic Barrier*, architect ONL(Oosterhuis_Lénárd), date of completion December 2004, client: Projectbureau Leidsche Rijn, product manufacturer: Meijers Staalbouw.

"The rules of the game. The brief is to combine the 1.5km long acoustic barrier with an industrial building of 5000m². The concept of the acoustic barrier including the Cockpit building is to design with the speed of passing traffic since the building is seen from the perspective of the driver. Cars, powerboats and planes are streamlined to diminish the drag. Along the A2 highway the Acoustic Barrier and the Cockpit do not move themselves, but they are placed in a continuous flow of cars passing by. The swarm of cars streams with a speed of 120 km/h along the acoustic barrier. The length of the built volume of the Cockpit emerging from the acoustic dike is a 10 times more than the height. The concept of the Cockpit building is inspired on a cockpit as integral part of the smooth body of a Starfighter. The Cockpit building functions as a 3d logo for the commercial area hidden behind the acoustic barrier"

Website:

www.oosterhuis.nl/quickstart/index.php?id=302

6. *Which Came First, the Feather or the Bird?*, Richard O. Prum and Alan H. Brush, Scientific American, March 2003, pag 60-69.

"Hair, scales, fur, feathers. Of all the body coverings nature has designed, feathers are the most various and the most mysterious. How did these incredibly strong, wonderfully lightweight, amazingly intricate appendages evolve? Where did they come from? Only in the past six years have we begun to answer this question. Several lines of research have recently converged on a remarkable conclusion: the feather evolved in dinosaurs before the appearance of birds. The origin of feathers is a specific instance of the much more general question of the origin of evolutionary novelties - structures that have no clear antecedents in ancestral animals and no clear related structures (homologues) in contemporary relatives. Although evolutionary theory provides a

robust explanation for the appearance of minor variations in the size and shape of creatures and their component parts, it does not yet give as much guidance for understanding the emergence of entirely new structures, including digits, limbs, eyes and feathers."

Website: www.sciam.com (and type in the title in the search engine)

7. *Web of North-Holland*, architect ONL (Oosterhuis_Lénárd), completed 2002, client Province of North-Holland, product manufacturer Meijers Staalbouw.

"One building one detail. The architecture of ONL has a history of minimizing the amount of different joints for constructive elements. Fifteen years ago this attitude led to minimalist buildings like the Zwolsche Algemeene and BRN Catering. At the beginning of the nineties Kas Oosterhuis realized that extreme minimizing of the architectural language in the end will be a dead end street. Hence in the office a new approach towards detailing was developed: parametric design for the construction details and for the cladding details. Basically this means that there is one principal detail, and that detail appears in a multitude of different angles, dimensions and thicknesses. The parametric detail is scripted like a formula, while the parameters change from one position to the other. No detail has similar parameters, but they build upon the same formula. It is fair to say that the WEB is one building with one detail. This detail is designed to suit all different faces of the building. Roof, floor and facade are treated the same. Front and back, left and right are treated equal. There is no behind, all sides are up front. In this sense parametrically based architecture displays a huge correspondence to the design of industrial objects. Parametric architecture shares a similar kind of integrity."

Website:

www.oosterhuis.nl/quickstart/index.php?id=117

8. *TT Monument*, artist ONL (Oosterhuis_Lénárd), completed 2002, client TT Circuit Assen, product manufacturer Aluminiumgieterij Oldenzaal

"We wanted to fuse the motorbike and the driver. The speed of the bike blurs the boundaries between the constituting elements. Each part of the fusion is in transition to become the other. Each mechanical part is transforms to become the mental part. The wind reshapes the wheels, the human body fuses into the new men-machine body. The fusion creates a sensual landscape of hills and depressions, sharp rims and surprising torsions. The fused body performs a wheelie, celebrating the victory and pride like a horse. The TT Monument is the ultimate horse: strong and fast, agile and smooth, proud and stubborn."

Website:

<http://www.oosterhuis.nl/quickstart/index.php?id=169>

9. *Protospace is a Laboratory for Collaborative Design and Engineering in Real Time*, directed by Prof Ir Kas Oosterhuis, at the Delft University of Technology.

"The transaction space for collaborative design is an augmented transaction space. Through sensors and actuators the senses of the designers are connected to the virtual prototype. The active view on the prototype is projected on a 360° panoramic screen. Active worlds are virtual environments running in real time. The active world is (re)calculating itself in real time. It exists. It represents a semi-autonomous identity developing a character. The active worlds are built according to a game structure. A game is a rule-based complex adaptive system that runs in real time. The rules of the game are subject to design. The collaborative design game is played by the players. Eventually the structure of the design game will co-evolve while playing the game."

Website: <http://130.161.126.123/index.php?id=5>

10. *Handdrawspace*, artist ONL (Oosterhuis_Lénárd), Architecture Biennale Venice in Italian Pavilion, 2000, interactive painting.

"Handdrawspace is based on 7 intuitive 3d sketches which continuously change position and shape. The trajectories of the sketches are restlessly emitting dynamic particles. The particles are appearing and disappearing in a smooth dialogue between the 3d Handdrawspace world and the visitors at the biennale installation Trans-Ports · When you step into the cave and go right to the center-point, a new colour for the background of the Handdrawspace world is launched. The inner circle of sensors triggers the geometries of the sketches to come closer, and thus to attract the particles. They become huge and fill the entire projection. Stepping into the outer ring of sensors the particles are driven away from you, and you experience the vastness of the space in which the particles are flocking."

Website:

www.oosterhuis.nl/quickstart/index.php?id=197

11. *Trans-Ports*, architect ONL (Oosterhuis_Lénárd), Architecture Biennale Venice, 2000, interactive installation.

"The active structure Trans-Ports digests fresh data in real time. It is nothing like the traditional static architecture which is calculated to resist the biggest possible forces. On the contrary, the Trans-Ports structure is a lean device which relaxes when external or internal forces are modest, and tightens when the forces are fierce. It acts like a muscle. In the Trans-Ports concept the data representing external forces come from the Internet and the physical visitors who produce the data which act as the parameters for changes in the physical shape of the active structures."

Website:

www.oosterhuis.nl/quickstart/index.php?id=346

12. *MUSCLE*, architect ONL (Oosterhuis_Lénárd), interactive installation in Forum des Halles Centre Pompidou, Paris, 2004.

“For the exhibition Non-Standard Architecture ONL realizes a working prototype of the Trans-Ports project, called the *MUSCLE*. Programmable buildings can reconfigure themselves mentally and physically, probably without considering to completely displace themselves like the Walking City as proposed by Archigram in 1964. Programmable buildings change shape by contracting and relaxing industrial muscles. The *MUSCLE* is a pressurized soft volume wrapped in a mesh of tensile Festo muscles, which can change their own length. Orchestrated motions of the individual muscles change the length, the height, the width and thus the overall shape of the *MUSCLE* prototype by varying the pressure pumped into the 72 swarming muscles. The balanced pressure-tension combination bends and tapers in all directions.”

Website:

www.oosterhuis.nl/quickstart/index.php?id=347

13. *911 Hypercube*, Ground Zero exhibition, Max Protetch Gallery, New York, 2002

“The war in Afghanistan took more lives than the attack on the WTC. Why do most people feel different about the death toll in Afghanistan than about the sudden death of the WTC and 3000 users? Are some killings more just than others? Are the winners always those who kill the most people? If you examine crime movies you will find out that the “good” ones are always licensed to kill many “bad” ones. Is that why the US had to kill more Afghans and Saudis than there were citizens killed on 911? Come on America, wake up and find a way to take revenge in a more intelligent way. Do not waste our precious time on the easy killing of poorly armed people. Let’s face it. Everybody was fascinated by the 911 event. Everyone was thrilled to watch the movie, over

and over again. Only extremely disciplined individuals could resist to watch. Quickly destroying things is naturally much more appealing than slowly synthesizing things. How can we as architects appeal to people’s fascinations by building new stuff?”

Website:

www.oosterhuis.nl/quickstart/index.php?id=155

14. *Protospace 1.1 Demo*, directed by Prof Ir Kas Oosterhuis, built by the Hyperbody Research Group, Delft University of Technology, 2004.

“How do the stakeholders collaborate in real time? Imagine the following scene. The game leader opens a file, the active world. Each file has a specific set of rules how to propose changes in the file. However, there will be developed a detailed Protospace protocol how to play by the rules. The referee explains to the players how to play the game. Each stakeholder chooses a view on the file. One player may choose different roles at the same time. The players come in action according to the rules of the game when it is their turn to propose a change. When playing the role of a specific stakeholder only that particular view on the database is displayed. While delivering the input through sensors and numpads the players are free to walk and chat in the group design room. The group design room is an open design studio, a social transaction space. The other players watch the active player and respond immediately like in a normal conversation.”

Website: <http://130.161.126.123/index.php?id=5>

The 7th Meeting of Heads of European Schools of Architecture

Chania, Greece, 4-7 September 2004

Shaping the Curriculum for a European Higher Architectural Education: A Trans-Atlantic View

Professor Stanford Anderson, Massachusetts Institute of Technology, USA

I am honored to have the opportunity to speak to you – and still more to have the opportunity to learn from your discussions over the days we will be together.

In many ways our field of architecture is in a state of flux. Architecture and architectural education are mutually challenged. Yet, there are also enduring values in our field. Consequently, the current challenges are not only to adapt to the new, but also to discern what should be maintained from the past.

My expectation is that the current situation of architecture in Europe and in North America has more commonalities than differences. But even small differences can have large consequences, so it will be valuable for us to learn from one another.

When the organizers of these meetings contacted me, they invited my participation in the stated purpose of this event, namely:

- to speculate on the consequences for European architectural education, imposed by the possibility of the implementation of the European Higher Education Area as this is described in the Bologna and Prague Declarations. This perspective will trigger serious reforms in the school curricula and will, therefore, redefine the aims and values of architectural education in Europe.

It will not surprise you that I was unfamiliar with these Declarations, when they were provided to me for study. Perhaps it would be useful if I give a trans-Atlantic reading of those short documents. Hopefully, my thoughts will provide some provocation for you.

I will speak with some conviction from my own experience, but it will obviously be for you to determine whether my thoughts are of relevance to your discussions.

In what follows, I will at several points provide excerpts from the operative documents.

The Magna Charta of University
Bologna 18 September 1988¹

Preamble

[We find ourselves in an] increasingly international society.

Consider:

- the future of mankind depends largely on cultural, scientific and technical development . . . and this is built up in centres of culture, knowledge and research as represented by **true universities**;
- . . . [universities must] **serve society as a whole** . . . [which then] **requires investment** in continuing education;
- that universities must give future generations education and training that teaches them, and through them others, to respect the **great harmonies of their natural environment and of life itself**.

I am disconcerted by the phrase “represented by **true universities**”. I know that European institutions of higher learning are as diverse as those in North America. When it comes to architectural education, it is more common in North America than in Europe that schools of architecture are found in prestigious and richly developed universities.

A document invoking “true universities” suggests an invidious distinction meant to exclude some institutions of higher learning from the European Higher Education Area – or at least to suggest the recognition of hierarchical levels. What is the place of polytechnics, art academies, and those Hochschulen or institutes that originally developed more in the realm of crafts and industrial technique? We also know there are hierarchies among **these** institutions. Not every polytechnic has the renown of Delft or Zurich; not every Academy that of Vienna.

I will be interested to learn more of what may have been the intent or the result of this emphasis on “true universities”. But let me make a more generous reading of the Preamble and move on to what I admire in that document. Let us assume that “true universities” is not to refer to existing hierar-

chies, but rather to encourage traits mentioned in that same paragraph: that culture, science and technology are all part of our social needs; that research is integral to the pursuit and transmission of culture and knowledge; that teaching at higher levels must be integrated with research.

From that positive assumption we can move on to other admirable aspects of the Preamble to this Magna Charta of University: namely, that the university must serve society as a whole, and that there must be a diffusion to the students, and beyond, of “the great harmonies of their natural environment and of life itself.”

I find this last idealistic ambition courageous and welcome. It pleases me to think that such a statement might be made with some realistic conviction in Europe. In America, I fear it would be deleted under some hard-headed cost-benefit analysis — or by contemporary political positions that I want still less to contemplate here.

To sum up thus far: I read that the Bologna call is for institutions of higher learning that will unite and pursue our several forms of knowledge and culture through an integration of teaching and research — this in the service of society as a whole, and in affirmation of high ideals for the quality of life and our environment.

Surely architecture has something to offer under this admirable program. Indeed, whether a school of architecture is located in a technical school, a great technical university, an academy, or a traditional university, it can be argued that architecture should be a valued agent in moving toward an institution that values knowledge and culture, teaching and research. Given the diverse natures of our home institutions, the relative strengths of our schools of architecture may be on either side of those equations.

Consider the second section of the Magna Charta:

Fundamental principles

- **The university is an autonomous institution** . . . it must be morally and intellectually independent of all political authority and economic power.

The moral and intellectual independence of the university is indeed a fundamental principle — a principle that needs to be safeguarded as much today as ever, perhaps more than ever. There is, however, an intrinsic problem that appears within the Magna Charta.

The need for independence from economic power is asserted as a fundamental principle. But the Preamble also asserts that universities should . . . “serve society as a whole . . . [and that this] requires investment in continuing education.” As currently organized, our institutions need stronger finances — intensifying research activities and providing outreach programs increase these financial needs. Whether new support is sought from government or industry, we are courting the seats of economic power. There is no easy solution to this matter, but it must be faced both in specific cases and as a matter of policy.

The second fundamental principle of the Magna Charta states:

- **Teaching and research in universities must be inseparable [from one another]. . .**

While this principle is widely accepted in major universities (and leads to the term “research universities”), it needs tending both at the level of individual professors and that of the institution. I think this issue is of particular importance for schools of architecture, so I will return to it later.

The third principle is truly fundamental and needs no discussion here:

- **Freedom in research and training. . .**
Rejecting intolerance and always open to dialogue, a university is an ideal meeting-ground for teachers, . . . imparting their knowledge and well equipped to develop it by research and innovation, and for students [who are able and willing to learn]

But what then of this fourth principle?

- **A university is the trustee of the European humanist tradition. . .**our constant care is to attain universal knowledge.

Not true for every university, but I will assume this principle is intended to mean: **European** universities are the trustees of the European humanist tradition. Even growing up in the cowboy country of the western United States, I am very much aware of growing up in, and valuing, the European humanist tradition. I constructed my university education in that way.

But remember, the Magna Charta began: [We find ourselves in an] increasingly international society. . .

Well, the issue is the “European higher educational area,” so perhaps “international” means “intra-European.” But is that adequate? The document seems to recognize that the now quite extended European Union is heterogeneous. Even the major western European powers are not as homogeneous as they once were.

Does the tolerance and openness to dialogue of our universities extend to this heterogeneous situation? In my immigrant nation this is certainly an issue — one on which we move but that is far from resolved. For my part, I would support the centrality of the European humanist tradition for European universities, but the discourse clearly has to be broadened.

And the call to “attain universal knowledge”? I won’t take up this issue here. Time does not allow it. Furthermore, I myself hope that the extreme relativism of much of post-modernism is being mitigated. But these are issues not to be resolved by mere assertion, especially while calling for openness to dialogue.

The last section of the Magna Charta is headed:

The means

- To preserve freedom in research and teaching, the instruments appropriate to realize that freedom must be made available to all members of the university community
- Recruitment of teachers: research is inseparable from teaching
- Students’ freedoms are safeguarded
- Universities — particularly in Europe — regard the mutual exchange of information. . . and frequent joint projects. . . as essential to the steady progress of knowledge. Therefore (as

historically) encourage mobility among teachers and students.

As might be expected, “the means” impinge more directly on what we as architectural educators are urged to do. The second foundational declaration, the Prague communiqué titled “Towards a European Higher Education Area,” is also concerned with the means to advance such an enterprise.²

Consequently, I would like now to look for what will touch more closely on architectural education; but first, a summary of some important aspects of the position advocated in our documents:

The two documents recurrently emphasize that **research and teaching** must be inseparable “. . . if [the teaching programs are] not to lag behind changing needs, the demands of society, and advances in scientific knowledge.”

One might say that the vision of a “European higher educational area” is fundamentally based on **research** and thus implies advanced education — education beyond transmission of the existing state of knowledge or practice.

Higher education must be equipped to develop knowledge by research and innovation. Thus, in the recruitment of teachers, **research is inseparable from teaching**.

The documents also emphasize mutual exchange of information, frequent joint projects, and, above all, **mobility** among teachers and students.

My experience

I offer some reflection on these principles from long experience as a professor and as Head of the Department of Architecture at MIT. MIT is a highly international, research-driven university. It is at least plausible to think of MIT as one model for the kind of university envisioned in the Bologna charter: international in both faculty and students; strongly based in research, MIT is also devoted to teaching; leaders in science and technology, we do also have a broad embrace of culture — and **cultures**. For this meeting, the MIT Department of Architecture may serve as a test case of architectural education within a research university.

I begin within the context of the Prague Declaration.

Towards a European Higher Education Area

Communiqué of the meeting of European Ministers in charge of Higher Education in Prague. 19 May 2001

The preamble here, in comparison to the Bologna Charter, speaks more fully of diversity. There is a call for a lifelong learning perspective on education. And a reaffirmation of higher education as a public good.

It is noticeable that students succeeded in inserting themselves in these discussions of the future of European higher education — and through them a stronger awareness of the social dimensions of intended reforms.³

The Prague document then repeats some earlier advocacy and goes into some more detail:

- **Adoption of a system of easily readable and comparable degrees**
- **Adoption of a system essentially based on two main cycles:** Undergraduate and graduate: bachelors and masters
- **Establishment of a system of credits**
- **[Again] Promotion of mobility:** Including students, teachers, researchers and administrative staff
- **Promotion of European cooperation in quality assurance:** Accreditation mechanisms but with encouragement of universities contributing to such establishments
- **Promotion of European dimensions in higher education:** i.e., not regional or national — but modules of general applicability
- **Promotion of the attractiveness of the European Higher Education Area:** Importance of quality and of accreditation

Thus, for the most part, the Prague document is remarkably bureaucratic, concerned with the nuts and bolts necessary for the Europeanization of higher education in EU countries.

I see positives in the Prague Declaration:

- Increased recognition of diversity and participation of students
- Higher education as a public good, and now extended in lifelong learning

But also some questions:

- As already mentioned, the question of how and when teaching and research are united.

- With such emphasis on research, why only two cycles (bachelors, masters)? With the Berlin Communiqué,⁴ this lack was corrected by addressing the role of doctoral degrees.
- However, once the doctoral degree is introduced to the discussion, this has its own problematic within architectural education.
- Finally, is mobility an unalloyed good?

In raising these questions, I do still want to endorse the ambitions of the Bologna charter. I agree that architectural education today must be conducted in settings that unite teaching and research. However, in the realities of architectural education, I think it is an error to think that the unity of teaching and research is always the ideal. This may be even more evident if European schools move to the two cycles of bachelors and masters education.

Those two cycles are the norm in North American higher education. In various schools and often in the same university, the initiation of an architectural education may be undertaken at either the undergraduate or graduate level. In either case, almost all students arrive with enthusiasm but very little knowledge about architecture. They are beginners. They are in need of intensive teaching. Many of them will have the capacities, both native and learned, to become effective researchers, but they do not yet have a grasp of the discipline within which to conduct that research. Viewed from the side of those who teach beginning students, this is an area of teaching that severely limits opportunities for research. I don't think architecture is best taught and developed under the implication that **all teachers** must be **equally** committed to teaching and research. Finally, I don't think that every architect need be a researcher; indeed, some of our best architects would be inhibited in their own production if they themselves were to conduct research.

While agreeing on the ideal of the unity of teaching and research in higher education, I suggest we need a more articulated model of how to organize architectural education. I would like to introduce a position I advanced years ago under the heading of the "Profession and Discipline of Architecture."⁵

In recognizing both the profession and the discipline of architecture, I do not intend an invidious distinction. I want simply to acknowledge different responsibilities and practices in these two modes of attention to architecture. Especially in the

present context, I look to these distinctions in the context of architectural education.

Discipline and Profession in Architectural Education. I

In Europe still more than in North America, to be recognized as a school of architecture is to be engaged in **professional** education. Recognition as a professional school implies an important responsibility to society — preparing people to enter the practice of architecture. Most, if not all of our schools of architecture conceive of professional education as the centerpiece of the school. Increasingly, however, schools of architecture incorporate other degree programs: advanced research degrees, including doctoral degrees. What new relations are then established between architecture and education, and among degree programs?

To clarify my distinction between the profession and the discipline of architecture, I offer the following virtual diagram. Imagine the profession of architecture diagrammed as a box that extends horizontally. This box is intersected, vertically, by another box for the discipline of architecture. Thus the two realms of activity intersect; the profession and the discipline are partially but not wholly coincident.

Profession of Architecture

The profession is dominantly engaged with the current condition of practice, seeking to fulfill commissions to the highest standards. The concerns of the profession are mainly synchronic and synthetic. Within the profession, memory and tradition survive **operationally** (currently, for example, in the contesting attitudes about modern architecture). Other aspects of our tradition survive in the **discipline**, but are not operative in the **profession** (the guild systems of medieval builders, for example, and even their architectural forms and technologies).⁶ The **profession** is inherently projective — it brings something into being. Yet the profession cannot be so exploratory that its projections are outside the resources and time-scale of client needs. Then too, there are **non-architectural** matters that are necessary, and thus deserving of attention within the profession

(examples are public relations and office management). Viewed from the profession, we see an appropriate inclusion of concerns that are not intrinsically those of architecture. On the other hand, certain forms of **architectural** knowledge are strategically excluded.

Discipline of Architecture

Now the discipline: By the “discipline of architecture” I understand a collective body of knowledge that is unique to architecture and which, though it grows over time, is not delimited in time or space. For example, post and beam structural systems, and wall and vault construction, appeared early in the history of architecture. These structural types are still studied in purely technical terms. When, however, such systems are understood to create opportunities and constraints for the definition of space, the control of circulation, and the play of light, these are then issues of the discipline of architecture.

The structure of knowledge within the discipline preserves the memory of, indeed continues to study, matter that is not engaged by current practice. Similarly, from a disciplinary base one can make speculative projections about what might be, unconstrained by the need for a synthesis within the time frame of a client. Historically, we see this in Piranesi’s *Carceri*, Ledoux’s “revolutionary” projects, or Frank Lloyd Wright’s “Broadacre City.”

There is a distinction in the products of the profession and the discipline. The product of the profession, a physical artifact and typically a building, absolutely requires a synthesis whether well or badly performed. The products of the discipline take many forms and possess their own integrity, but emphasize a given aspect of architecture, establishing resources for an architectural synthesis rather than taking that step.

Discipline and Profession in Architectural Education. II

Turning back to schools and degree programs, I think the implications of my thought are clear. The professional degree programs have come into being, and assume their form and responsibilities, in relation to the profession. The discipline of architecture, including its trans-cultural aspects

and its anachronisms and speculations, is primarily the domain of the research degree programs. Exponents of both the profession and the discipline are necessary in architectural education. This entails the presence, within a school of architecture, of persons, types of inquiry, and subjects that do not always address one another directly. Indeed, in the here and now, they may quite properly be irrelevant to one another. Outside current utility, the range and structure of the discipline deserves to be explored in its own right, but also because what appears irrelevant today may yet prove otherwise.

However, it would be a pity if these two enterprises did not recognize significant relations as well. The diagram I evoked earlier included an **intersection** of the profession and the discipline. Within this intersection important transactions are initiated from both sides. Le Corbusier was a passionate practitioner, yet he is so frequently cited because both his ideas and his works contributed to the growth of the discipline. Both Viollet-le-Duc and Gottfried Semper are remembered primarily for their theoretical contributions to the discipline of architecture, yet numerous architectural works could not exist without such theories. The intersection of the profession and the discipline deserves careful attention. Indeed, precisely this aspect of the profession must be emphasized in schools. Other aspects of a student's professional development await immersion in the architectural office. From this intersection the professional degree student ventures into the more esoteric aspects of the discipline, both for an understanding of its past and to revel in imagining a practice that does not yet exist.

We want the discipline to grow and become more articulate. We want professional practice to reach its highest standards. As researchers or professionals we want to make our own contributions to these enterprises. As educators we want to prepare the next generation to make their contributions in each of these areas. Degree programs exist only to serve these ends; to maintain both the fruitful distinction between professional and research degrees, and then also their interaction, is fundamental.

With this background of the profession and the discipline, I return to the questions I raised earlier:

- How and when are teaching and research united? In the early years of a professional education, the neophyte architect needs an intensive teaching environment. The student is not yet ready to conduct research. The teacher who is dedicated to these students may have a research enterprise, but if so, it will rarely be developed within the beginning teaching program. At the least, the time available for research is reduced. Professors should not all have identical profiles; we need those who are more fully devoted to the teaching enterprise.
- The Bologna and Prague documents place great emphasis on research. If, as is often the case in North America, architectural education **begins** at the masters level, these more mature students need almost the same devoted introduction to the profession and discipline as do beginning undergraduates. Of course, the masters level, in other constructions, is also used to move beyond the first professional degree, and thus can have a significant research dimension.
- But we must, as in the Berlin Communiqué, also introduce the issue of doctoral education. Throughout the world, the doctoral degree is the pre-eminent research degree. Once the doctoral degree is introduced to the discussion, a new problematic presents itself within architectural education. I will come back to this issue.
- The Bologna, Prague, and Berlin documents all give great emphasis to mobility of both students and professors. There is a romantic allusion to medieval scholars. There is recognition of the opportunities presented by the European Union and of the still broader internationalism of our times. But, is mobility an unalloyed good? Does the urging of mobility support the call for higher levels of teaching and research? My experience suggests that research professors thrive best when they have stable institutional support from colleagues, students, and an appropriate research environment. The same is true for students in research degrees. If we turn, again, to beginning students, they **do** need to learn of the diversity of their new discipline, and thus travel is enriching — but constancy in their learning

environment is also important to **their** success. As I will mention later, it is also through that constancy that these beginning students find entry to the research enterprise of the university.

Escalation of Research in Professional Architectural Education

I have argued for maintaining a distinction between the professional and the research degrees in architecture. Both types of degree require devoted teaching, but of different kinds and with different needs and opportunities for research activities.

Maintaining a distinction between professional and research degrees is, however, under challenge. In February 1996, I had the opportunity to attend a meeting of your European Association of Architectural Educators at the Technical University in Delft. The topic was “Doctorates in Design + Architecture.” That was eight years ago, so I look forward to learning from you what has happened; but allow me to reflect briefly on what I understood at that time.

The impetus for the Delft meeting was pressure within the European Community to re-conceive the basic professional degree in architecture as a doctorate. In the US, a small number of people, increasingly vocal, advocate this same policy. If this were only a change of terminology, it would be merely an unfortunate example of degree inflation. More rationally, advocacy for a change to a doctoral degree is accompanied by a change in the agenda of professional architectural education — purportedly moving it into the realm of a research degree. At first glance, a higher degree title may appear to be a positive step toward a more rigorous architectural education and in concert with changes in architectural production. However, to date professional education in architecture has been a course of long duration that, nevertheless, few among us would argue over-qualifies its graduates. Expressed more positively, architecture students begin with little specialized preparation from secondary or undergraduate education and, encountering a broad and complex field, need the current extended degree programs to comprehend their discipline and emerge as promising architects. It seems implausible either that all of these

students want or need an additional research component, or that even the best of them would, in a constrained period of time, excel on two fronts simultaneously.

Actually, the matter is more complex than this and I have over-stated my case. There are important gray tones in this picture. In my own school, for example, professional degree students are increasingly introduced to research techniques; professional students and research degree students in architecture and other fields share studios and workshops; and some professional students participate in faculty research projects. Professional students **do** increasingly engage research agendas. Nonetheless, we would never think to demand an independent, advanced (never mind **doctoral**) research thesis at the same time that a student is culminating a professional education. If terming a professional degree a doctorate is not just a misnomer, it endangers the professional degree agenda and devalues the traditional doctoral degree. As presented here, such a move would, under its most positive construction, insist on a highly developed thesis in the intersection of the profession and the discipline of architecture — but such a demand asks too much too early of these students.

Nonetheless, the profession of architecture and the professional degree programs are rightly concerned to contribute to the discipline of architecture. In teaching, perhaps even more than in practice, designers should be chosen for their ability to entertain and advance the more general level of discourse about architecture — advances that are simultaneously contributive to the profession and the discipline. This capacity of design professionals should be respected and encouraged. When possible it should also be incorporated into the research degree programs.

In terms of background, orientation, and time, however, it may well be exceptional that design professors can also conduct or direct research in a form that is appropriate for the doctoral degree. Perhaps advanced disciplinary research is the realm for a **professional** doctoral degree in architecture (that is, something other than a Ph.D.), but I think this has yet to be proven. I think rather that the exploration of this intersection of the profession and the discipline can continue in two familiar ways: 1) through projective formulations of

designers presented in essays, diagrams, models, and architectural works, as well as through the less formalized demands of the professional and advanced masters degrees; and 2) through the advanced research conducted by those who have completed both professional architectural degrees and traditional doctorates in correlated fields (e.g., engineering, history, social sciences). Such double graduate education is demanding, yet increasingly common among well-qualified candidates.

In the end, I suppose my advocacy is quite simple. Schools of architecture should be devoted to the profession **and** the discipline of architecture; to developing both through research; and to teaching our diverse field from initiation through doctoral studies. Such a large and complex program benefits from teachers of diverse interests and competence. One aspect of that diversity is a range of appropriate ways in which those teachers engage research — and sometimes, honorably, don't. Finally, excellence in both teaching and research is supported by collegial and institutional stability. As concerns mobility, the Europeanization of your higher education area might be fruitfully realized in two ways: by professors receiving long-term appointments across old national boundaries; and, similarly, some or many students from each country earning a degree through a full program of devoted study elsewhere than in his or her home country.

The goal should not be a diversity of educational smorgasbords, but the complementarity of well-educated professionals and scholars from diverse schools of high standing.

All this, hopefully in the service of, to quote a last time, **"the great harmonies of our natural environment and of life itself."** ■

Notes and References:

1. Excerpted here from Constantin Spiridonidis and Maria Voyatzaki, eds., *Towards a Common European Higher Architectural Education Area* (Thessaloniki: EAAE/ENHSA, Aristotle University of Technology, 2002), pp. 273-274.
2. From *Towards a Common*, pp. 312-316.
3. *Towards a Common*, p. 313.
4. "Realising the European Higher Education Area," Communiqué of the Conference of Ministers responsible for Higher Education in Berlin on 19 September 2003, reprinted in Constantin Spiridonidis and Maria Voyatzaki, eds., *Shaping the European Higher Architectural Education Area* (Thessaloniki: EAAE, 2003), pp. 252-258.
5. Stanford Anderson, "The Profession and Discipline of Architecture: Practice and Education," Andrzej Piotrowski and Julia Williams Robinson, eds., *The Discipline of Architecture* (Minneapolis: University of Minnesota Press, 2001), pp. 292-305.
6. This is not to say that the profession does not leap back over time to embrace once again aspects of the architectural tradition that had become dormant. Classical revivals have been several in the history of architecture. The Bauhaus, famed for its role in the development of modern architecture, began with a favorable reassessment of the practices of medieval guilds. Indeed, as I will argue below, the discipline of architecture maintains a record and an awareness of the architectural tradition that is then used selectively - by imitation, but also critically and inventively - in the profession.

EAAE / ARCC Conference Dublin

Dublin School of Architecture, DIT, Ireland, 2-4 June 2004

Report

EAAE Council Member, Hilde Heynen

Between Research and Practice

The School of Architecture of the Dublin Institute of Technology (DIT) hosted the fourth biannual joint EAAE / ARCC Conference, after previous ones held in Raleigh, North Carolina, Paris, France and Montréal, Quebec. Some 85 delegates from both European and American schools of architecture participated in the event, listening to the key-note speakers, delivering papers, engaging in discussions and enjoying the warm hospitality of our Irish hosts. An extremely well organized conference in an interesting city provided the opportunity to establish acquaintances, renew friendships and sharpen the opinions on the connections between research and practice in the field of architecture. It proved to be a worthwhile experience, although, inevitably, some critical questions concerning the nature and scope of this kind of conference need to be posed.

The call for papers had invited contributors to formulate their thoughts on one of the typical features of the architectural discipline: its existence 'between research and practice'. Indeed, architecture is the concern of teachers, practitioners and researchers alike, but they all address the field in very different ways, establishing divergent standards of quality and engaging in a wide range of strategies to tackle quite heterogeneous problems. Whereas the call stated that "the architectural discipline seeks to close the gap between teachers, practitioners and researchers, while at the same time allowing synergies to develop without loss of individual character or identity", the conference brought together a great variety of people all concerned with the links between research and practice. The majority of delegates nevertheless belonged to the categories 'teachers' or 'researchers' – practitioners generally not being in need for the credits generated by participating in such an event.

The organizers however had made sure that the expertise of some very interesting practitioners came to the fore by inviting Chris Luebke from Ove Arup Engineers and Ciaran O'Connor from the Dublin Office of Public Works as key-note speakers. Both did a remarkably good job by addressing how research issues pertained to their line of work. Luebke argued, in a highly appreciated lecture, that in architectural practice the research into innovative construction techniques

often meets constraints posed by available budgets, cautionary clients and inflexible regulations. To the architect and engineer interested in exploring new territories these constraints heighten the challenge to develop the most appropriate forms and techniques applying new materials and calculation methods. Ciaran O'Connor discussed the restoration of Turner's Curvilinear Range Glasshouses in the Botanic Gardens in Dublin – quite appropriately the venue for the second day of the conference. As the public architect responsible for this project, which involved the development of new restoration techniques for wrought and cast iron, he demonstrated how his open-minded and investigative design strategy had worked. Typical for his approach is the respect for the input of skilled craftsmen with a hands-on knowledge of materials and techniques. This approach allowed O'Connor to effectuate a feasible and economic restoration of these glasshouses without destroying the material essence of Turner's valuable buildings – as the delegates could appreciate later by visiting the same.

The third key-note speaker was Brian Norton, the president of DIT and an expert in solar energy. His lecture stressed the importance of an integrated design process, in which the advising engineers are involved as soon as possible. Indeed, in order for the building to reach a high level of energy efficiency, some parameters have to be taken into account that influence the shape of the building right from the start. Intensive interaction between architects and engineer is therefore recommended from the earliest stage of the design process onwards. Norton's lecture launched the third day of the conference, the morning of which was devoted to 'Sustainability & Building'. In this session a series of mainly American researchers in building physics presented their work, covering issues ranging from comfortable work space over passive solar buildings to noise reduction through the application of green roofs.

The afternoon of that day contained first a session on 'Design Origins', discussing a diversity of means to widen the input of different forms of knowledge into the design studio. The second session, the concluding one of the conference, covered 'Approaches to design research', comprising three papers that were interesting in themselves but lacked any interconnection with one another.

This somewhat detailed account of the diversity of the third day gives an indication of what was clearly the weak point in the conference set-up. The theme 'between research and practice' is absolutely pertinent for the field of architecture, but it covers such a wide range of topics that the conference threatened to lose its focus. Indeed, research in the field of architecture consists as well of scholarly research in design theory and in history, theory and criticism, as of scientific investigations in the different disciplines of building physics. One should also comprise research into didactical tools that support studio teaching or that help bridge the gap between theoretical courses and design work under this term, as well as the research into technological aspects of conservation or into innovative construction techniques. All these areas, however, tend to develop themselves as highly specialized academic fields with their own literature, expertise, publications and organizations. Practice on the other hand is not monolithic either. Not only is there a wide range of offices with different sizes and compositions (just architects, or architects and engineers), also commissions tend to vary widely from public buildings, housing or conservation to specialized areas such as sustainable buildings or high risers. Some architects also practice in real estate, or they have developed skills in the field of virtual architecture – designing websites or data representation systems.

The diversity comprised under both terms 'research' and 'practice' resulted in the fact that, generally, the delegates in this conference shared only a minor part of their background knowledge – the part namely that they acquired in their education as an architect. At least some of the papers were therefore delivered to unfruitful ground, since the audience that was addressed failed to totally comprehend what was their specific contribution. It is indeed not easy to maintain high standards of scientific and scholarly performance when in a 20 minute paper the basics themselves have to be covered (like 'why is daylight important?', or 'who were Alison and Peter Smithson?'). Most contributors did a very good job in presenting their cases, but in some of the sessions the discussion did not really take off because of a too wide diversity of topics covered. The almost inevitable result was a reduction of the intellectual density that might be expected of the exchanges within an international conference of this kind.

One of the participants started his paper by quoting from a report from a US assessment committee of the early 1930s which stated that architectural schools have great difficulty to fit in university culture. It seems that nothing much has changed since then. Indeed, one of the most specific feature of the architectural discipline is that it is involved with a multitude of areas of research and practice and that it strives to build synergy among them all. The ambition to maintain as well the wide scope as the designerly specificity of the discipline is at odds with an academic culture that demands rigour, compliance with general scientific and scholarly standards, narrow focus and highly defined methods. This incompatibility was highlighted again and again in this conference, giving rise to sometimes heated discussions.

Indeed the most memorable aspect of this conference – next to the warmth of the Irish hospitality – relied in the engaging discussions that took place about the nature of research in architecture and its relation to practice. Halina Dunin-Woyseth skillfully summarized these by referring to two different modes of research: mode 1 being the conventional, academic kind of research that is being carried out in well defined disciplines under the scrutiny of universities; mode 2 rather the interdisciplinary, practice based and less traditionally defined kind of research that harbours, according to her, the largest potential for the future. It is clear that a lot of what was presented in Dublin strived to belong to mode 2 type of research, although the means of financing and assessment still tend to favour mode 1 type of research. That, I would conclude, is indicative of the double bind in which architecture finds itself when trying to confirm its academic position and its intellectual merits: architecture presents a kind of thinking that is encompassing, open and creative, whereas academic disciplines require rigour, focus and standardization. This conference underscored once more that this double bind should be seen as a challenge rather than a problem – a challenge that can push teachers, researchers and practitioners in architecture to exemplary performances. ■

International Design Forum IFG Ulm 2004

International Design Seminar, IFG Ulm, Germany, 16-18 September 2004.

Report

EAAE Council Member, Anne Elisabeth Toft

Ulm Revisited

The International Design Forum Ulm was founded in 1987 by the Ulm School of Design Foundation as a project-oriented educational establishment. The Foundation is dedicated to the question of how people model their surroundings within the fields of architecture, product design and communication. Adhering to the all-round educational idea of the legendary *Hochschule für Gestaltung Ulm* (1953-1968)¹, the International Design Forum considers itself an educational platform for designers and architects, promoting the development of networks and establishing a space for a cross cultural and multidisciplinary discussion on architecture and contemporary culture.

Every year since 1988 the Foundation has held the International Design Forum; a three-day symposium in the German city of Ulm. The range of themes discussed at the symposium has been broad, and the discussions have always dealt with the widest spectrum of disciplines. At the same time the Foundation has been able to attract some of the most interesting speakers of our time. This fact contributes to making the events organised by the International Design Forum so very exceptional, relevant and inspiring. The project may in many ways resemble the similarly outstanding – but no longer existing – *Any Conferences*; a project and a cultural institution conceived and organised by the Anyone Corporation from 1991 to 2000². Just like the discussions at the *Any Conferences* generated a series of books – the so-called *Any Magazines* – so have the discussions at the International Design Forum generated a number of intriguing books documenting the Ulm symposiums³.

Unlike the previous years, the 2004 event was not a symposium open to the public, however.

This year's event took place as a closed meeting for a number of invited experts: leading figures from within the fields of cultural theory, architecture and design representing various discourses. Under the heading "Unschärfe / Blur" the IFG's Advisory Board had invited more than 60 people from all over the world to come and be part of a one-day "think tank". In small groups the participants would "brainstorm" and discuss the future for architecture and design.

The IFG Advisory Board

The work of the IFG is guided by the IFG Advisory Board. This body is continuously re-thinking its own role and position as advisory body. It also critically discusses the role and position of the International Design Forum.

The IFG Advisory Board was largely reconstituted this year at its meeting on 27 May and now holds several new members⁴.

At this year's International Design Forum event the new board was concerned with gaining specific insights from the discussions of the "think tank"; insights that will among other things work as a guideline and an inspiration when the Foundation and the IFG Advisory Board develop future programmes and invent new strategies for the International Design Forum. Before arrival in Ulm each invited participant had received a list of twenty key questions that the Foundation and the IFG Advisory Board had drawn up in preparation for the meeting.

Unschärfe / Blur

Although the meeting of the "think tank" did not take place until Friday, 17 September 2004, most of the many international participants were already gathered in Ulm the night before, enjoying the warm hospitality of the representatives of the Foundation, the IFG Advisory Board and the City of Ulm.

On Thursday night the Mayor of Ulm Ivo Gönner generously hosted a dinner at the "Stadthaus" on Münsterplatz. After dinner everyone went to an adjoining auditorium in the Town Hall to hear the public lecture "Unschärfe / Blur" by Swiss Architect and Designer Professor Hannes Wettstein⁵.

In the evening the participants explored Ulm and socialized at local "Bierstuben" with informal talks.

The next morning at 9 o'clock the "think tank" met again – this time at the former *Hochschule für Gestaltung Ulm*, the marvellous building complex designed by Swiss Architect Max Bill which was the venue for the whole event. The buildings that once housed the Ulm School of Design are now occupied by the University's Faculty of Psychology. This

place was no less than the ideal “frame” for a day of innovative “brainstorming” and stimulating discussions.

The meeting was opened by Fred Hochstrasser, Chair of the Foundation, and Dr. René Spitz, Chair of the IFG Advisory Board.

Back to the Future

The “think tank” was divided into a series of small working groups. Each group had its own moderator – a member of the IFG Advisory Board – who skilfully conducted the discussions in the group. The discussions revolved around the questions of how the participants see the future of their discipline, and which topics and items they expect to see making up the agenda of architects and designers in the coming years.

All discussions were tape-recorded for further use by the advisory board.

After a very interesting day of intense discussions, the meeting came to an end at 6 p.m.

The advisory board concluded the event by briefly outlining its first impressions of the discussions.

On Friday evening before dinner the participants were taken on a guided tour of the building of the School of Design by Chair of the Foundation, Fred Hochstrasser.

This was indeed a very exclusive tour. Fred Hochstrasser was not only one of the first students to graduate from the school in the 1950s, he also worked as a “Bauleiter” and an assistant to Max Bill when the school was built in 1953-55. When the tour ended Fred Hochstrasser hospitably showed the participants his own villa which used to be Max Bill’s “Meisterhaus”. This beautiful house had an aura of its own. It was completely furnished with design icons and rare art objects from last century, and it really seemed to reflect the whole spirit of the *Hochschule für Gestaltung Ulm* as well as the so-called “Ulmer model”.

Coming back to the IFG Ulm is always an exquisite pleasure⁶. Not only are the symposiums remarkable; there seems to be something almost magic about this place which is hard to explain.

200 metres from the campus there is a concentration camp from World War II (now a documentation centre) and going down the “Obere Kuhberg” – which is where the school and the concentration camp are situated – you enter Ulm – an old picturesque city by the Danube that still has a lot of medieval “flavour” to it⁷; The impressive Gothic cathedral *Ulm Münster* with the highest steeple in the world is the obvious landmark of the city. But so is the *Hochschule für Gestaltung Ulm* at the “Obere Kuhberg”.

It will be very interesting to see how the IFG Ulm develops in the next few years under its new advisory board. ■

Notes and References:

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Notes and References:

1. In the 1950s and 1960s, the *Ulm School of Design* (*Hochschule für Gestaltung Ulm*) was one of the world's leading educational centres for design and environmental design. It was founded in 1953 by Inge Scholl, Otl Aicher and Max Bill, who became the school's first principal.

With a teaching staff comprising Max Bill and Otl Aicher as well as renowned figures such as Max Bense, Hans Gugelot, Tomás Maldonado, Friedrich Vordemberge-Gildewart and Alexander Kluge, and numerous guest lecturers from across the globe, the Ulm School of Design rapidly established a highly respected international reputation.

New concepts for resolving design issues were sought and implemented in visual communication, product design, industrialised building, information and, later, film departments. The school's pedagogical concept, known as the so-called "Ulm model", was characterised among other things by a new system-oriented design methodology and the introduction of interdisciplinary teamwork.

www.ifg-ulm.de

2. *Anyone Corporation* was a non-profit corporation with editorial and business offices in New York, USA. Board of Directors: Peter Eisenman (President); Cynthia C. Davidson; Arata Isozaki; Philip Johnson; Rem Koolhaas; Phyllis Lambert; Ignasi de Solà-Morales.

3. Can be ordered on:
www.ifg-ulm.de

4. The IFG Advisory Board consists of the following members (mentioned in alphabetical order):

- Dr. Elisabet Blum, architect (Zurich)
- Dr. Dieter Bosch (Stuttgart), representative of the Ulm School of Design Foundation
- Dr. Heinz Hahn (Neu-Ulm), Honorary Chair of the IFG Advisory Board
- Bernd Kniess, architect and urban planner (Cologne), temporary professor for planning methodology and design at the University of Wuppertal
- Dr. Albert Kümmel, media scientist, junior professor at the University of Konstanz

- Klaus K. Loenhardt, architect, landscape architect, architectural theorist, partner in terrain, office for urban landscape science (Munich)
- Dr. René Spitz, design theorist, partner in rendel & spitz advertising agency (Cologne), chair of the IFG Advisory Board
- Professor Raimar Zons, media scientist, head of Wilhekm Fink publishing house (Paderborn)

5. www.zednetwork.com

6. The author of this report has participated in the symposiums of the International Design Forum Ulm since 2002. In *EAAE News Sheet # 68* you can read the interview; *A Question of Position* with German architect Ole Scheeren, Partner OMA (pp. 19-28) and the article *Risiko Ausbildung – Risikoausbildung* by Dr. René Spitz (pp. 29-33).

Both Ole Scheeren and Dr. René Spitz were keynote speakers at the 16th International Design Forum Ulm (2003): *Positioning Design and Architecture, From Training and Study to a Career?*

7. Ulm and Neu-Ulm are twin towns. Between the two towns flows the Danube whose bridges link the two towns together. Ulm is in Baden-Württemberg and Neu-Ulm is in Bavaria.

Light of Tomorrow

International Velux Award 2004 for students of architecture

Ten winners of the *International VELUX Award 2004 for Students of Architecture* have been announced and honoured at an Award Event in Paris on the World Day of Architecture, 1 October.

The aim of the Award is to encourage students of architecture to work with daylight perception and exploitation under the theme of - "Light of Tomorrow".

258 entries from 106 schools in 27 European countries this year demonstrate that day lighting is a central architectural challenge.

The projects demonstrate a remarkable and interesting overview over architectural education today and the jury found all submitted projects valuable, representing different aspects of one large research.

In 2005, the ten winning projects will be presented in an *Award Yearbook*. Together, these sources will provide a pool of inspiration to architects and students all over the world, and hopefully pave the way for international attention and cooperation among architects of today and tomorrow.

The International VELUX Award for Students of Architecture is arranged every second year. Next time will be in 2006.

The Award is organised in co-operation with EAAE (European Association for architectural Education) and approved by UIA (International Union of Architects)

The Jury

- **Glenn Murcutt**
Glenn Murcutt Architect, Australia
- **John Pawson**
Architect, UK
- **Craig Dykers**
Architect, Project Director, Snøhetta, Norway
- **Ole Bouman**
Cultural and architectural historian, Editor-in-Chief, Archis, The Netherlands
- **Ahmet Gülgönen**
Architect, UIA representative, France
- **James F. Horan**
Architect, EAAE President, Ireland
- **Michael Pack**
General Manager, VELUX, Germany

First prize

- 8,250 Euro for the student
- 2,000 Euro for the teacher

Claes Cho Heske Ekernås from the *Oslo School of Architecture* in Norway won the first prize for his project "*Light as Matter*", characterised by the jury as "a sensitive approach that demonstrates lightness and happiness". The idea of his project - a museum for the famous Korean artist Nam June Paik - was to make a fusion between art, architecture and the human being.

- I have exploited the possibilities of making light and art work together. Physical walls have been replaced by immaterial walls of light, working as transmitters instead of borders, dividing the different rooms, said Claes Cho Heske Ekernås about his project.

Second prize

- 6,250 Euro for the student
- 1,500 Euro for the teacher

The second prize went to a Croatian team of students, *Hrvoje Zupari, Dean Niskota* and *Ivan Starcevic*, from the *faculty of architecture in Zagreb*. Their project "*The Hole Issue*" evolves around an intelligent house of glass, adjustable to the individual inhabitants' need for light, transparency, contact to nature, privacy or darkness. - The project merges light and lightness in a simple, archetypical house design in a scale that talks to us all, said the jury about the second prize.

- In our project we used all five facades of the house and also exploited the potential of solar energy to make the house sustainable, said Hrvoje Zupari, representing the team of architect students.

Eight honourable mentions

- 1,200 Euro for the student
- 300 Euro for the teacher:

Besides the first and second prizes, the jury awarded eight honourable mentions. The themes of the projects were plentiful, but some common traits were discernable. For example, the exploration of the relationship between light and materials such as glass and fabrics, and the invention of light machines in the form of building structures adapting to daylight by more or less complex mechanical or electronic control systems. Please find detailed information about the winners and their projects at: www.VELUX.com/A

The jury's evaluation

At the jury meeting in Paris in September, each jury member went through all 258 projects and selected the entries that he found to be the most interesting.

This individual evaluation resulted in a shortlist of 56 projects. A thorough review of the 56 projects narrowed down the list to 19, and among these the jury selected the first and second prizes as well as the honourable mentions. When the ten winning projects had been found, the sealed envelopes were finally opened by the jury and the names and nationalities of the winners were revealed.

The International VELUX Award for Students of Architecture is biennial and is scheduled to take place again in 2006. ■



International VELUX Award Jury

Light of Tomorrow

International Velux Award 2004 for students of architecture

1st Prize, Light As Matter, 200

Claes Heske Ekornäs, Oslo School of Architecture

Jury's evaluation

A very sensitive approach demonstrating lightness and happiness. A student with an enormous potential.

Background information student and project

The idea of Claes' winning project "Light as matter" – a museum for the world-known Korean artist Nam June Paik – was to make a fusion between art, architecture and the human being.

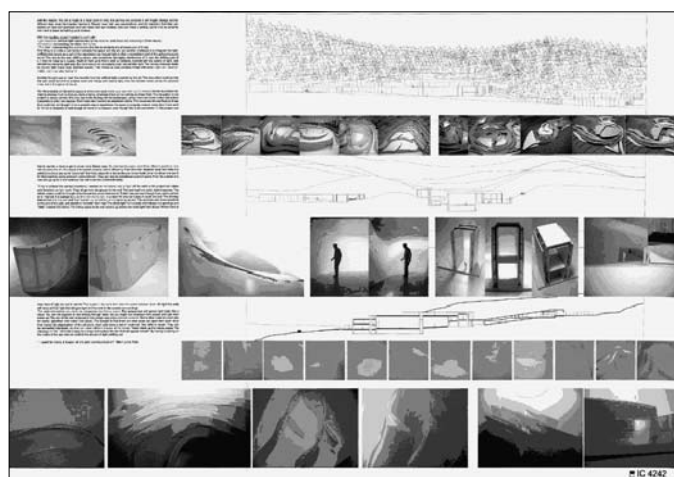
The project is founded on theoretical studies of past and contemporary art, experimental models that explore conventional physical boundaries, transitions and structures as well as computer animations that seek to uncover more intangible, visual and emotional aspects. On the basis of his findings, Claes focused on the visitors' as well as the light's interaction with the art.

Physical walls have been replaced by immaterial walls of light, working as transmitters instead of borders, dividing the different rooms. The walls can open and thus change the visitors' experience of the room as well as of the art.

Before his architectural studies Claes studied astronomy, math, chemistry, psychology and social science for 4 years. He has used the analytical tools from his initial studies in this project and would also like to break down borders between different professions in his future work with architecture. It is his hope to enlighten people about architecture as an essential and visual part of our everyday life.

Names of teachers

Per Olaf Fjeld
Neuen Fuchs-Mikal
Lisbeth Funck
Rolf Gerstlauer



Light of Tomorrow

International Velux Award 2004 for students of architecture

2nd Prize, The Hole Issue, 096

Hrvoje Zuparic, Dean Niskota And Ivan Starcevic, Arhitektonski Fakultet, Zagreb, Croatia

Jury's evaluation

A project that merges light and lightness. A simple, archetypical house design in a scale that talks to us all.

Background information on students and project

The idea of "The Hole Issue" is to make living easy, exploiting the natural resources as much as possible. The intelligent house of glass is adaptable to the individual inhabitants' need for light, transparency, contact with nature, privacy, darkness or inspiration.

The glass walls of the house can optically change the facade, giving the impression of bricks, wood or other materials – or just be transparent. From the inside, the walls may be used as monitors projecting for instance computer images. All five facades are used, including the roof, and exploit the

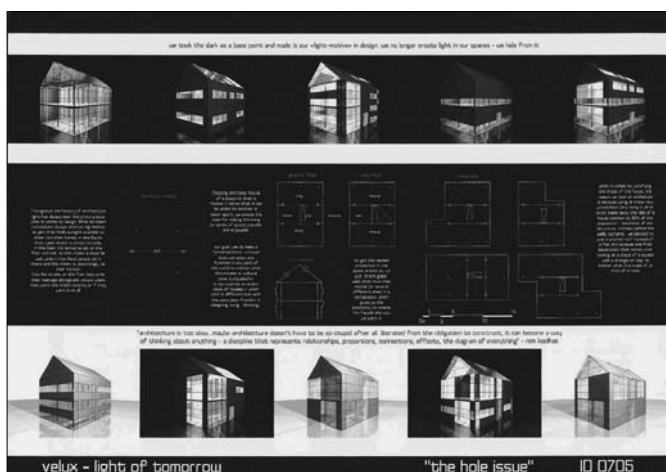
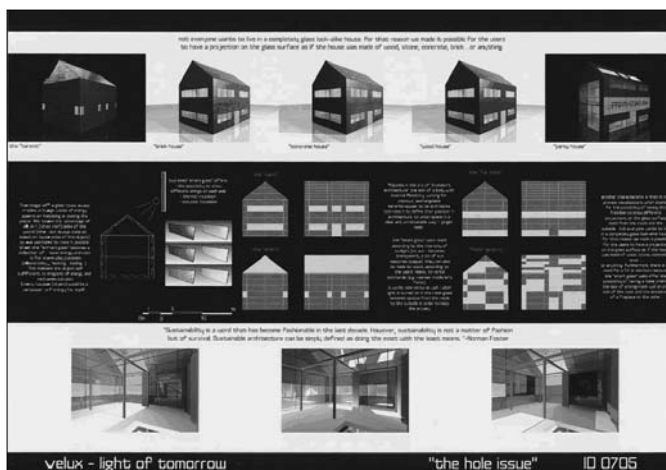
potential of solar energy to make the house sustainable.

The students' motivation for participating in the Award was to get to know the standard of other European students' work to see, if there was anything they could learn from this in Croatia.

The students consider the prize a great reference, and they hope that their ideas will become useful in their homeland, where they all would like to start their professional career.

Name of teacher

Alenka Delic



Light of Tomorrow

International Velux Award 2004 for students of architecture

Honourable Mention

Day(sea)light Pavilion and Ferry Terminal in The Fjord of Oslo, 007

Kristine Langfeldt Wessel
Oslo School of Architecture

Name of teachers:

Per Olaf Fjeld
Neuen Fuchs-Mikal
Lisbeth Funck
Rolf Gerstlauer

Lumino/Kinetic House, 010

Salvador Rivas
Bartlett School of Architecture

Name of teacher
Stephen Base

Light Into Dark, 038

Matthäus Wirth, Irina Koerdt and Jacqueline Pehlemann
University of Arts Berlin

Name of teacher
Prof. Dipl. Ing. Günter Zamp Kelp

Landscape Interior, 067

Daniel Martinez Diaz,
Escuela Tecnica Superior de Arquitectura de Madrid

Name of teacher
Alberto Morell Sixto

Textile Spaces – The Light Dimension, 085

Caroline Marie Damhaug
Oslo School of Architecture

Name of teacher
Per Olaf Fjeld
Neuen Fuchs-Mikal
Lisbeth Funck
Rolf Gerstlauer

Daylight Museum, 141

Kvichia Zia and Levan Asabashvili
Fachhochschule Münster, FB Architektur

Name of teacher
Andreas Krys

153

Mariusz Nowak
Faculty of architecture, Wroclaw University

Name of teacher
Stanislaw Lose

Monolight – Three Prototypes, 191

Attila Bujdoso and Ildiko Bujdoso
Budapest University of technology and economics

Name of teacher
Ferenc Csagoly
Ass.: Vukoszavlyev Zoran

EAAE General Assembly

6. September 2004, Chania, Greece

Treasurer's Report

EAAE Council Member, Herman Neuckermans

Balance / <i>Bilan</i>	AEEA 2003		Budget AEEA 2004	
<i>Depenses / Expenses</i>	budgette	realise	<i>Depenses / Expenses</i>	
secretariat	27700	32715,41	secretariat	29250
news sheet	6000	5519,96	news sheet	8000
prizes	42600	18547,32	prizes	36893
conferences	74150	54858,52	conferences	79650
ENHSA	5000	350,86	council meetings	9000
council meetings	4000	1890,8	publications	13400
publications	4400	0	databank	5000
databank	1000		website/cards/leaflets....	5150
website/cards/leaflets....	5400	1021	imprevus/miscellaneous	2000
imprevus/miscellaneous	2000	1451,13		<u>188343</u>
	<u>172250</u>	<u>116355,00</u>		
<i>Entrees / Income</i>			<i>Entrees / Income</i>	
	budgette	realise		
reserve	128938,93	129260,74	reserve	115090
memberships	35000	35760,67	memberships	50000
conferences	75000	57954,87	conferences	70000
prizes	22000		prizes	42000
K.U.Leuven	5750	5750	K.U.Leuven	5750
publications	500	1361,01	publications	500
	<u>267188,93</u>	<u>230087,29</u>		<u>283340</u>
				<u>94997</u>

EAAE General Assembly

6. September 2004, Chania, Greece

Transcript of Address to General Assembly

EAAE President, James Horan

You are all very welcome to the General Assembly of the EAAE. It is my intention, first of all, to briefly describe to you what has occurred since this time last year.

The Council has had a number of meetings during the year and the underlying theme of the discussions at the Council has been the future of EAAE while at the same time dealing with the day to day business of running the Association. On the opening night of the Chania meeting we were reminded that this is the seventh meeting of the Heads of Schools. Where children are concerned, being seven years old is regarded as reaching the first stage of maturity. It's the time when children are expected to take a certain amount of responsibility for their actions. Perhaps this Seventh Meeting has that significance for us. We are coming of age. More significantly, next year, 2005, the EAAE will be thirty years in existence. With that in mind it is our intention to continue the process of re-evaluation and to look towards the future and the role of the Association in what is definitely a changing environment in Europe and indeed a changing environment globally. The discussions we have had this week already clearly indicate that there is significant change ongoing in architectural education and we, as a representative Body of educators, have to be entirely cognisant of this. More particularly we should be leaders in the field. Ours is the group who should decide what the future of architectural education in Europe will be.

As part of the work of Council we have drawn up a series of protocols and guidelines to structure in a clearer way where our work is going and how it will develop in the future. Because of that we have identified a three level structure within the Association. This consists firstly of the President, Vice-President, Treasurer and Council Members who become the Executive Body of the Association. Traditionally the work of Council was supported by a series of Project Leaders who carried out various tasks on behalf of the Association. These roles will continue and I intend to talk about each of these later. In the coming year however, it is our intention to introduce another layer of responsibility which will form a greater sense of coherency between the Council and the Project Leaders and between Council, Project Leaders and the Membership. The inten-

tion here is to identify individual members of Council who will, in addition to their Council duties take a responsibility for certain areas of activity relating to the Project Leaders. This will mean that all of the activities of the Association will be structured in a manner that will ensure a full reporting mechanism and, as the Council membership changes, which it will naturally do over time, the lessons of the past are fully documented avoiding the need to reinvent the wheel with each change of administration. With that in mind the areas in which we have initially identified as important, but by no means exhaustive, are as follows:

Publications and Conferences

These form a significant aspect of the work of EAAE. These are the methodologies by which we discuss and debate matters among ourselves and they are also the means by which we communicate with others. The result and the fruit of those discussions can only be communicated to Schools and others involved in architecture if we publish. This publishing activity should encompass books and reports, leaflets, the website, the news sheet and any other method deemed appropriate.

Knowledge and Information

The second area that is regarded as important is the entire area of knowledge information and a database to contain this knowledge. Knowledge is really our greatest asset. What we possess most of all is what we know. It is an objective to establish a well developed database of knowledge, of contacts and of documents related to Architectural Education and other Associations appropriate to EAAE. The strength of EAAE will come from the knowledge it possesses.

Research

The third area of significance is the area of research. Needless to say the sense of development and moving forward to the future and pre-empting problems before they occur is very often part of the work of research. The position of research

and the nature of research in architecture is currently a topic which is generating considerable debate. We must engage in these discussions and become a forum for their advancement. The Council will need to identify someone who will be responsible for co-ordinating these efforts.

Public Relations

Quite separate from the publication activities there is need for good public relations. A public relations policy will be developed between the Association and the Schools it represents, between the association and other organisations across the world who have an interest in architecture and architectural education and between the association and the public in general. We have a responsibility as educators to extend the educational process beyond the formal tasks in our Schools. There is a growing understanding that Schools and Universities have a responsibility outside of their perimeter walls. We would see our association as having a role in developing that thinking process and enhancing the role of Schools of Architecture in the communities in which they are located.

Finance and Sponsorship

Underpinning most of this is of course the single significant area of finance. Finance in fact is what allows us to operate. I suppose, you could say, it is a necessary evil, but nevertheless it is necessary and the association needs to have financial stability in order to carry out its work. You are aware of course that in the last year we increased the membership fee, and I am delighted to say that the existing Schools, almost without exception were able to accept that increase. This has provided the Association with additional financial flexibility. Tied-in with finance there is the question of sponsorship. You are aware that there have been many types of sponsors involved with the work of the Association to date. We are conscious of the need for sponsors, but we are also conscious of the fact that sponsorship is something that has to be seen in a specific light by the Association. This is not an area where the Association becomes the performer on behalf of a sponsor. It is important to find sponsors who are prepared to support the activities of the EAAE as defined by the Association. This is one of the delicate areas that we need to explore. We need to be grateful to our

sponsors while at no time losing our integrity or our identity.

Links with Other Organisations

Finally, there is the question of a series of relationships with other organisations, particularly those who are involved in architecture and architectural education. In particular there is our relationship with our counterpart in the United States - the ACSA, and our relationship with the ARCC and other organisations representing both the profession and the educators of in Europe and beyond.

The Council of EAAE set down a number of initial objectives relating to the above mentioned points at the start of last year. Some of these have already been achieved or partially achieved but many of them will remain on the objective list for the Association going into the future.

The first objective is the development of a fully professional association with a permanent Secretariat. In the thirty years since EAAE was founded it has steadily grown to the point where it needs this sense of permanence that will result in the association being in a position – irrespective of the membership of Council, or irrespective of who holds the Presidency - to continue the work of the Association in a seamless manner. In order to be able to engage with others on a fully professional basis we must also be seen to be fully professional.

The second objective is to increase the membership of the Association. At the moment there are more than 100 Schools of Architecture participating in one form or another. It is the ambition of the Council to significantly increase the number of participating Schools. We have a number of vehicles by which this can be achieved. Within Europe itself of course we will be endeavouring to encourage Schools to become full members and fully participate in the work of the Association. Outside of Europe we will be inviting Schools to take up associate membership and become aware of what is happening in Europe at this very important time.

The third area of importance is to increase the involvement of existing member Schools at as many levels as possible. Last year Council wrote to all member Schools and invited them to submit nominations for new members of Council. I am

pleased to say that a large number of Schools and individuals responded to this request and many nominations were received. In fact, the list was so impressive that we felt obliged to write to the individuals who had been nominated and asked them to present a short statement as to how they would see their skills and experiences being valuable to Council and the Association as a whole. Stemming from that we received a variety of both interesting and erudite submissions and as a result new Council members are now being proposed. Before discussing this issue and asking the General Assembly to approve the new Council members I would now like to refer to the individual areas of activity which have occupied the time of both the council Members and the Project Leaders during the past twelve months.

The News Sheet

You will see that the News Sheet which is our principal arm of communication has had a face lift. Those of you who have seen the most recent edition will be aware of the change in design and presentation and the expansion of both size and contents. The News Sheet continues to grow. This work has been due to the efforts of Anne Elisabeth Toft. I would like to commend the work she has done in this area and also to identify the support she has received from her School in Aarhus. One of the key issues here is that individual members of Council and the Project Leaders within EAAE depend entirely on the support and permission from their Deans, their Rectors, and their Schools to allow them to give the time to fully participate in the work of the Association. We are extremely grateful to Peter Kjaer, the Rector of the School of Architecture at Aarhus who has been hugely supportive in the publication of the news sheet.

AG2R Competition

Emil Popescu from the University of Bucharest was responsible for the organisation of the international competition for Architectural Students. This competition dealt with the subject of designing for elderly people, designing for the third and fourth age. The competition was sponsored by the French Company AG2R and it attracted a very large student entry from all over Europe. It was judged in Paris by a Jury chaired by Mario Botta. It is our intention to publish in detail the submis-

sions of this competition as many interesting areas of design were explored and investigated.

Guide to the Schools of Architecture

Leen Van Duin from the Technical University of Delft has produced a new and updated version of the Guide to the Schools of Architecture of Europe. This is the Association's most successful publication. It is extremely important as it will become clear to Schools who are not in the Guide that they should be and this will allow us to specifically target these Schools in our drive to increase the membership of the Association.

The Chania Meeting and Thematic Networks

Here in Chania we are supported enormously by the work done by Dinos and Maria and the Thematic Sub-networks. This support is endorsed by their School, the Aristotle University of Thessaloniki. This initiative has had the single most important impact on the Chania meetings. It has allowed the meetings to continue, but also it has had an enormous impact on the Schools of Architecture that have been involved. The introduction of the thematic sub-networks has been a huge stabilising influence on the work of the Association and on the Chania meeting in particular. Those of you who may be here in Chania for the first time will have no concept as to the amount of time, effort and work that takes place throughout the year in preparation for this event. Over the past two years meetings have taken place in the Henry Van de Velde Institute in Antwerp as a preparation for the Chania Event. We are extremely grateful to Richard Foque, Head of that School, who has facilitated these meetings, and the members of the Association who attended and participated. I believe that the staff of the Schools of Architecture who have attended the various meetings have benefited enormously from their involvement.

VELUX Prizes

Ebbe Harder has been working with VELUX Denmark in organising two specific events, the second competition for New Writings in Architecture for Educators and an international competition for students of Architecture entitled

'The Light of Tomorrow'. These two competitions have been hallmarked by a superb professional organisation and we eagerly await the outcome of their endeavours.

EAAE/ARCC Conference

The Dublin School of Architecture, at the Dublin Institute of Technology, in June of this year hosted a joint Conference between EAAE and ARCC under the heading 'Between Research and Practice'. The conference was attended by over 100 delegates from both the United States and Europe. A report on that Conference is in the current EAAE News Sheet, and the proceedings are currently being prepared for publication.

The outcome of these projects and those who have worked on them have been the core blood of the Association. We would like to thank those who have been involved and encourage the work to continue. Indeed we would wish to see new projects being identified and developed. Under the heading of new projects, a series of guidelines have been drawn up to inform members on how a project can be introduced to the Association. Broadly speaking a project may be introduced by Council themselves and they may then seek to find a project leader. Alternatively a member of the Association may identify a project and submit it to Council for approval. A series of guidelines have been prepared to identify how the project should be run, how it is financed, how it is reported upon and how ultimately it is finalised, closed down, recorded and archived. Again this is part of the building of the knowledge database.

During the past year I, as President, have had the opportunity to represent the EAAE at a significant number of events. Many of these were particularly valuable in developing the thinking process that helps identify the future of our Association. They have also been important from the point of view of establishing contacts and widening the influence of and the information about the EAAE. Last November I attended the annual conference of our sister organisation in the United States, the ACSA. It was both an interesting and revealing process to observe how a similar organisation to ours carries out its business, deals with its problems and maps out its future. The attendance at this particular event was instigated by Marvin Malecha, the Dean of the School of Design at the North Carolina State

University. We thank him for his continued support and interest in the work of EAAE over many years and ensuring that the links across the Atlantic are maintained.

In the Spring I was invited to meet SCHOSA, the Standing Council of Heads of Schools of Architecture of the United Kingdom. They were particularly interested in the work being done within EAAE and how we saw the future of architectural education in Europe. They were specifically curious about the stance being taken by many Schools in 'the post-Bologna environment' and on the Bachelors/Masters issue. I was able to inform them on the extent of the work, the investigation, discussion, debate and knowledge gathering that has been done and continues to be done in this area.

I was also invited to meet the Board of the Architects Council of Europe, the Body representing the professional institutions. Two meetings took place with them throughout the year, one in Brussels and one in Dublin. I believe that we have a real possibility of exploring areas of mutual interest between that organisation and the EAAE. They have invited us to form with them a joint working party to explore these areas. As I believe that the professions share a responsibility with Schools in the wider area of the Architectural Education, I now seek a mandate from the General Assembly to establish this joint working party with the Architect's Council of Europe. [Approved]

New Members

A number of applications were received for membership of EAAE as follows.

Full membership

- Fachhochschule Dessau, Germany
- Universidade da Beira Interior, Laubi, Covilha, Portugal
- School of Architecture, Moscow, Russia

Associate members

- Ryerson University, Toronto, Ontario, Canada
- Technion, Faculty of Architecture, Israel
- Auburn University, Alabama, USA

Individual Member

- Kevin Mitchell, Sharjah, United Arab Emirates

I seek the General Assembly's approval for these new members. [Approved]

The Future

So what is on the Agenda for the coming year?

Firstly, the Council wishes to expand its membership by the introduction of two new members. The two members proposed have been identified from the large number of submissions and their selection relates closely to the strategic objectives I have already mentioned.

The proposed new members of Council are:

- Ramon Sastre from the Escola Technia Superiore Arquitectura del Valles [UPC] Sant Augat del Valles, Spain
- Hilde Heynen from the Catholic University of Leuven, Belgium.

Ramon is an Architect of exceptional technical experience and commitment to architectural education and will extend the influence of the Association to the Iberian Peninsula.

Hilde, whose experience in the areas of academia and international conferences is widely known, will be expected to bring a new level of academic rigour to the work of the association in the areas of Conferences and Peer Reviewed Papers.

I now seek the approval of the General Assembly of these new Council members. [Approved]

This time next year my term of office as President will come to an end and a new President will take over in my place. Therefore, I now propose to you a new Vice-President and President-elect of EAAE, Per Olaf Fjeld. Per Olaf has been serving as a member of Council for the past number of years and during that time he has brought enormous wisdom and stability to Council's work and great clarity of thought to the strategic issues which are the core of the Council's business. I therefore now seek your approval for Per Olaf Fjeld as Vice-President. [Approved]

Finally, on Council matters I announce the resignation from Council of Stephane Hanrot. Stephane has been working on research and archi-

tectural doctorates. His new appointment to Professorship means that he will be unable to devote time to Council in the immediate future. This leaves a position open for a further Council member and the existing nominations will be re-examined with this position in mind. However, do not exclude the possibility of submitting further nominations to the Council, I invite you to consider this.

I wish to thank you, the membership of EAAE, for your enormous support and dedicated work that has been carried out over the last twelve months. The endeavours of the Association during the last year and over the past few years has meant that the EAAE has actually come of age. The platform for the future is well under construction. I look forward to an eventful and fruitful year ahead. ■

Faculty Position Urban Development, Spatial Planning and Design

Katholieke Universiteit Leuven, Belgium



Position starting 01.10.2005

Within the department ASRO (Architecture, Urban and Regional Planning), there is a vacant position for a full-time member of the academic staff. The new staff member will be responsible for the following domains:

- Research in the domain of urbanism and landscape design in regions facing major development problems. This research involves three aspects. The first concerns a theoretical component (critical reflection on urban development

and the role of planning and design); the second an analytical-descriptive one (spatial analyses and interpretation of urban environments in a context of development); the third a designerly approach (formulating design strategies in answer to the problems detected in the earlier analyses). This research domain is presently in full mutation, whereby the impact of international institutions is considerable. The candidate is expected to valorise the research tradition in this area that exists at the department (for example by stimulating the processing of existing research material in view of publication). The candidate will also give an important impetus to the further growth and development of this research domain, in the three aspects mentioned (theoretical reflection, analysis, design). It is also considered important that he/she is able

to attract international research projects, possibly in co-operation with other institutions abroad. The candidate should also play an initiating role in the attraction and guidance of doctoral students.

- Teaching in the areas of 1) processes of sustainable development and the role of spatial design disciplines in this respect; 2) spatial analysis and interpretation of urban environments in development; 3) urban and landscape design in a context of development. Teaching responsibilities involve theoretical courses and seminars as well as design studios. Teaching activities will be mainly (but not exclusively) situated within the postgraduate programs MAHS (Master of Human Settlements) and MAUSP (Master of Urban and Strategic Planning). The teaching language will be English.

- (Collaboration in) the co-ordination of the postgraduate programs MAHS and MAUSP.

The candidate should:

- have a Ph.D. in a relevant discipline;
- demonstrate the necessary experience in research (publications);
- be prepared to establish or extend an international network supportive of research and teaching;
- demonstrate the necessary didactical and organisational qualities.

For more information, see the website of the university:

www.kuleuven.ac.be/admin/rd/niv3p/vza/p6/ad-j02tw.htm

ACSA 2005 International Conference

Mexico City, Mexico

9-12 June 2005

Conference Co-Chairs:

- David Covo, McGill University
- Gabriel Merigo, Universidad Nacional Autonoma de Mexico

Conference Theme & Call for Papers Encounters/Encuentros/Rencontres

The Universidad Nacional Autónoma de México, the oldest university in the Americas, will host the 2005 ACSA International Conference: Encounters/Encuentros/Rencontres. As the site of the first meeting between Moctezuma and Hernan Cortez in 1519, Mexico City provides an appropriate and exciting venue for the examination of encounters and their consequences.

As a theme, the notion of encounters provides a rich and fertile ground for

interpretation and speculation. The word encounter describes a meeting, but implies that the meeting could be accidental, unexpected, even undesirable; it also refers to a level of engagement that goes far beyond a simple coming together, suggesting the presence of challenges and obstacles, and calling for actions and outcomes.

The 2005 conference will accommodate students, teachers and practitioners from Canada, Mexico, the US, and beyond in a carefully structured series of encounters - planned and accidental - with colleagues in architecture and the allied disciplines. Participants will investigate the implications on architectural education and practice of every kind of encounter - between individuals and groups, peoples and nations, intentions and ideas, technologies and cultures.

Plenary sessions and presentations will address a wide range of topics in the imaginative and provocative consideration of encounters. We invite everyone to submit papers for peer review in the following topic categories:

Encounters With the Past

- history and archaeology
- conservation and preservation
- vernacular architecture and indigenous cultures

Encounters With the Future

- technology: in the design office, on the construction site, in the building
- new materials, smart buildings
- sustainable building and urban design

Encounters and the City

- architecture and urban design: theory and practice
- housing

Encounters With Students

- issues and pedagogy
- tri-national exchanges

Encounters in the Profession

- changing practice models
- internship
- reciprocity

Encounters Outside the Profession

- interdisciplinary design and practice

Encounters at the Frontier

- crossing borders: education and practice
- east/west
- north/south

For further information

www.acsa-arch.org/meetings/meetings_description.shtml?MID=17X0YzEa8&C=2

Conference – The unthinkable doctorate. Discussing design-based research

Hogeschool voor Wetenschap & Kunst (W&K) Architecture Department Sint-Lucas, Belgium.

15-16 april 2005

Supported by Nethca (Network for theory, history and criticism of architecture) and USO-Built.

Call for papers

This colloquium is intended to unite academics and practitioners around the question of the doctorate in architecture, and particularly the more specific question of what might be a doctorate for architects who practice.

The question may be formulated in at least two parts:

- Under what conditions might the design work of an architect, formalized and formatted by him- or herself, be recognized as a doctorate?
- How might doctoral work be configured so as to help ground and further the architectural work of the author?

Doctorates in the "architectural sciences" (considered in their most general sense, including urbanism, urban design, and regional planning), in the various domains of construction, and in theory and history of architecture are currently recognized.

But a "doctorate in architecture" which is constituted from the practitioner architect's work itself – "architecting" – has not yet deeply been explored.

Doctorates that think through and reflect upon – by whatever graphic or linguistic means – architecture qua architecture in its various fields of operation, its eventual essence or eventual existence, its order, its structure, its ethics are even rarer. What is its field of application? What criteria are applicable to it? What options might be available, and how to identify potential candidates?

Such are the questions that participants in the colloquium, whether practitioners or scholars, are invited to try to answer, based on their own institutional or professional experience.

We hope in particular that some practitioners will be able to show how a veritable doctorate in architecture made by themselves can aid the development of their design work or their thinking and also what such a doctorate can bring to the intellectual community?

Abstracts should be maximum 600 words. The official languages of the conference are Dutch, French and English. Abstracts are preferably submitted in English. The organisers particularly

welcome proposals based on architectural practice.

Invited Keynote speakers

- **Francesco Cellini**
Faculty of Architecture of the 'Universita degli studi Roma Tré
- **Halina Dunin Woyseth**
Oslo School of Architecture
- **Ranulph Glanville**
Royal Melbourne Institute of Technology
- **Stephane Hanrot**
Ecole d'Architecture Marseille Luminy

Timetable

- Submission of abstracts:
15 June 2004
- Notification of acceptance:
31 August 2004
- Submission of draftpapers:
30 October 2004
- Comments and suggestions:
15 December 2004
- Final version of the papers:
31 January 2005
- Conference:
15-16 April 2005

Organising committee

Johan Verbeke, Marc Belderbos and Marc Dujardin (Hogeschool voor Wetenschap & Kunst, Departement Architectuur Sint-Lucas)
Hilde Heynen (Katholieke Universiteit Leuven)
Bernard Kormoss (Maastricht Architecture Academy)

Conference secretariat

Katrien Vandendorpe
W&K Departement Architectuur Sint-Lucas
Paleizenstraat 65-67
1030 Brussels
Belgium
Tel: + 32 2 242 00 00
Fax: +32 2 245 14 04
Katrien.vandendorpe@archb.sintlucas.wenk.be

For Further Information:

www.architectuur.sintlucas.wenk.be/nl/conference_the_unthinkable_doctorate/index.htm

Distributed Form: Network Practice - symposium

22. October 2004

The Department of Architecture and the College of Environmental Design together with the newly formed Center for New Media at UC Berkeley are proud to sponsor their first symposium, Distributed Form: Network Practice from Oct. 22nd to the 24th 2004. This international symposium will critically explore emerging opportunities for design through networked and distributed models of organization and their connection to architectural design practice.

By examining the creative thinking of a multidisciplinary collection of speakers

including architects, engineers, theorists and media artists, this symposia will examine how design is responding to the demands and potentials of networked thinking and practices, and how environments are being impacted by the logics and organizational thinking behind "networked society", specifically through the reconceptualization of design as a distributed practice, along with its larger implications for form-making.

The design symposia will feature Mark Wigley, Dean of the Graduate School of Architecture Planning, and Preservation at Columbia University, as the keynote speaker on Friday evening. Other speak-

ers will include Michael Speaks, Marcos Novak, Reinhold Martin, Mark Goulthorpe, Dagmar Richter, Michael Bell, Peter Bentley, Peter Testa, Casey Reas, David Crawford, George Legrady, and Kris Pister, bringing together a wide and multidisciplinary array of expertise from Engineering, Architecture, Art and Media Practice. The symposium will include presentations related to experimental design, design theory, media design and the logics of distribution, identity, form and practice.

For further information

www.ced.berkeley.edu/conference/dfnp

5th Creativity and Cognition Conference

Goldsmiths College, University of London, UK

12-15 April 2005:

Call for Submissions

Creative Process and Artefact Creation:
Practice, Digital Media and Support
Tools.

Creativity and Cognition 5 will take place in London in April 2005. The main theme of the conference is the creative process and the creation of artefacts: understanding creative practice, art works employing digital media and creativity support tools. The Creativity and Cognition Conference of 2002 provided both the excitement of the new and at the same time, revealed a growing maturity and strength that can now be demonstrated in the 5th conference.

Challenges for the Creativity Agenda

There are important challenges facing the creativity community, not least of which is to reconcile the broad base of

disciplines and their contending agendas with the need to establish a clear sense of direction, albeit an interdisciplinary one.

Some of those challenges include:

- What should the focus of creativity research be?
- How can digital tools for supporting specific creative domains be transferred for the benefit of all people in any domain: in other words produce generally applicable results?
- Can the effectiveness of a given tool in helping a creative person accomplish his goal be measured, and if so, how?
- What is the impact of using different tools and technologies on simple creative tasks and how do we conduct comparative studies in this area?

- What are the critical breakdowns in the creative process across domains and whilst using different forms of digital media.

- What is the impact of collaborative work on our notions of ownership and intellectual property rights?

projects. In 2002 at C&C4, the results of those collaborations were in evidence. In fact, there has been an enormous shift towards the creative arts with technology at the centre, both in the creativity research reported in the papers and the creative practice exhibited in the exhibition.

Harold Cohen, Stelarc and Jack Ox represent significant figures in the growing community of practitioners for whom digital media in its most advanced form is a key aspect of the artwork.

Increasingly, software tools are being developed specifically with creativity in

mind drawing on the growing knowledge of the creative process.

Submission Deadline:

1st October 2004

For further information:

research.it.uts.edu.au/creative/CandC5/

AA Architectural Education Symposium

A Two-Week Series of Lunchtime and Evening Lectures and Events

Monday 25 October - Friday 5 November

At the end of the last academic year the School Community decided to hold a symposium on architectural education at the beginning of this academic year. It was decided that the most useful way of realising this was to devote to it a fortnight of the School's evening lecture timetable supplemented by lunchtime discussions.

Although the Symposium is a response to the School's current search for a Chair, it is also a more general attempt to raise questions which surround the future of architectural education. The Symposium consists of evening lectures

by architects or those associated with architecture whose views would be of particular interest to the AA at this point; and a number of lunchtime debates on more specific issues which are of immediate concern to the School's future educational structure.

For further information:

www.aaschool.ac.uk/lectures/detail.asp?strID=7

Design Education; Tradition and Modernity

The National Institute of Design, Ahmedabad, India

2-4 March 2005

Call for papers

The National Institute of Design, Ahmedabad plans to organize an international conference on Design Education "Design Education; Tradition and Modernity, (DETM)" to be held on March 2-4, 2005.

The idea is to bring together the academic design community, design researchers & design professionals concerned for the cause of design education across the globe to provide a platform for deliberating on the emerging issues related to Design Education in the

context of changing paradigm and globalization. Through this event we expect that some tangible action point for our common goal will emerge through various deliberations. This will be the first of its kind conference on Design Education in Asia Pacific region. There will also be keynote addresses by invited international experts in the area of design. We take this opportunity to seek your expression of interest for submitting the paper and participation.

For further information:

www.nid.edu
detm2005@nid.edu

Futureground Conference

Melbourne, Australia

17-21 November, 2004.

- 150 papers
- 7 daily parallel sessions
- 100 Universities
- 32 Countries represented

Monash University, one of Australia's leading research universities, is proud to host the Design Research Society International Conference - FUTUREGROUND, in Melbourne during November 2004.

The conference will debate directions emerging from design research around the world. No researcher, educator, practitioner or research student should miss this opportunity.

The conference will cover an extensive range of topics including human-centred

design, sustainability, architecture, industrial design, engineering, philosophy, visual communication, design practice and education amongst many others.

The evolution of research in our field is at a critical point. The conceptualisation of research 'in' and 'by' design focused on design's cultural contribution as well as on its functionality, and the emergence of a studio-based 'research practice', challenges many current notions of design research.

As well as the interrogation of current research thinking by the keynote speakers, the conference will also be the forum for 'The Third Degree' debate, in which the 'comfort zones' of current research will be vigorously challenged. FUTUREGROUND may well be a watershed in this evolution - you need to be

there! The scope of the conference ensures that your research and/or professional area will be covered. The international spread of speakers provides a major networking opportunity for designers and researchers.

Keynotes from:

- Professor Mark Burry
Director, Spatial Information
Architecture Laboratory, Royal
Melbourne Institute of Technology
- Dr John Armstrong
Department of Philosophy,
Melbourne University
- Clive Dilnot
Parsons School of Design, New
York

The full list of speakers can be viewed at the presentations page. Regular updates will be issued from now including the schedule, speaker profiles, and special features of the conference.

Early bird registrations before:

1 October 2004

For further information:

www.futureground.monash.edu.au/contact.html

For any registration inquiries please email:

futureground@artdes.monash.edu.au

Collage Europa: Architectural Dialogue

Netherlands Architecture Institute (NAI), Rotterdam, The Netherlands

The reality of European Cities in East and West

11-12 November, 2004

The symposium Collage Europa: Architectural Dialogue aims to focus on the current situation in Central and Eastern European cities, to exchange expertise and to inspire a dialogue between Eastern and Western Europe about architecture and urban planning.

State Socialism has left a deep impression on public space and the organization of cities in the former East Bloc. How is 'free' capitalism changing the architecture and urban planning in these countries now that the 'Magistrales' are no longer decorated with images of Lenin but rather with Nokia advertising? Which design strategies can be effectively applied to this new reality and what are

the expectations? And are the problems of restructuring in the vast satellite cities comparable with those of post-war neighborhoods in the Netherlands? Architects, architectural historians and critics from all over Europe will discuss these issues.

Speakers include:

- Gideon Boie
- Stefan Ghenculescu
- Wolfgang Kil
- Matthias Pauwel
- Vincent van Rossem
- Samu Szemerey
- Roemer van Toorn
- Bohdan Tschertes
- Pieter Uyttenhove
- Ana Maria Zahariade
- Moderator: Bert van Meggelen.

The symposium will be held in English

Registration Fees:

2 days:

- 40 Euro
Students and Friends of the NAI
- 30 Euro

1 day:

- 25 Euro
Students and Friends of the NAI
- 17,50 Euro

For further information, contact:

Marlin Kornet,
tel: +31 (0)10 440 1200
m.kornet@nai.nl

EAAE News Sheet offers publication space

As the circulation of the News Sheet continues to grow the Council of EAAE has decided to allow Schools to advertise academic vacancies and publicise conference activities and publications in forthcoming editions. Those wishing to avail of this service should contact the Editor (there will be a cost for this service).

Yours sincerely
James F Horan, President of the EAAE.

New EAAE Council Members by 6 September 2004

Hilde Heynen



Hilde Heynen was born in Deurne, Belgium. She graduated as an engineer-architect from K.U. Leuven, Belgium in 1981 from where she also holds a Special Degree in Philosophy (1982) and a Ph.D. in Applied Sciences (1988).

Hilde Heynen has taught and lectured throughout Europe and the United States.

She is presently a full-time associate professor at KU Leuven. In 1991-1992 she was a visiting assistant professor at the MIT School of Architecture and in 2000-2001 she was a staff member at the Architectural Association in London. Hilde Heynen is a frequent member of competition juries and advisory committees. She has been a member of the editorial boards of *Archis*; *Jaarboek Architectuur Vlaanderen* and *The Journal of Architecture*.

Hilde Heynen's research field covers architectural theory, urbanity and architecture, and gender.

Her most important publications include:

- Heynen, Hilde; Loeckx, André: "Scenes of Ambivalence. Concluding Remarks on Architectural Patterns of Displacement." In: *Journal of Architectural Education*, 52-2, Nov. 1998, pp. 100-108.
- Heynen, Hilde: "What belongs to architecture?" *Avant-garde ideas in the modern movement.* In: *The Journal of Architecture*, Vol. 4, N. 2, Summer 1999, pp. 129-138.
- Heynen, Hilde: *Architecture and Modernity: A Critique.* Cambridge (Mass), MIT Press, 1999.
- Henket, Hubert-Jan; Heynen, Hilde (eds.): *Back from Utopia. The Challenge of the Modern Movement.* Rotterdam. 010, 2002.
- Heynen, Hilde; Baydar, Gulsum (eds.): *Negotiating Domesticity. The production of gender in modern architecture.* London, Routledge, 2005 (in print).

New EAAE Council Members by 6 September 2004

Ramon Sastre



Ramon Sastre was born in Móra la Nova (Tarragona) Spain. He studied architecture at the School of Architecture at ETSAB (Spain) from where he graduated as an architect in 1973. In 1981 he finished his Ph.D.-thesis: Design and analysis of structures of bars, completely articulated, with great deformations.

Ramon Sastre is a professor of architectural technology at the E.T.S. d'Arquitectura del Vallès, Universitat Politècnica de Catalunya, Spain. Since 2002 he has also been the Director of the school. From 1990 to 2002 he was Director of the Computing Centre of ETSAB.

Ramon Sastre has been responsible for the research line: "Development of

Technical Systems and Materials", belonging to the Department of Architectural Technology I (ETSAV), and he has been coordinator of the Architecture & Civil Engineering Department of CLUSTER.

CLUSTER is a group of eleven European universities of technology, and the Architecture & Civil Engineering Department is involved in attending to the collaboration of the students of these two areas. This is done through interchange of staff (Cluster Chairs), workshops (summer and winter workshops) and postgraduate courses.

Ramon Sastre has had teaching and research positions in Spain (ETSAV), UK (University of Bath; University of Swansea

(postdoctoral stay)) and Japan (University of Yokohoma) leading to collaboration with Dr. Chris Williams (University of Bath), Prof. Zienkiewicz and Prof. Javier Bonet, (University of Swansea), and Prof. Kazuo Ishii (University of Yokohoma)

Ramon Sastre's research topics include: tensile structures: membranes, cables, etc.; analysis and programming on architectural technology; stereographic studies of solar radiation and illumination; expandable structures. He is the author of numerous publications on subjects related to these topics.

Council Members / Membres du Conseil

Fjeld, Per Olaf

(EAAE/AEEA Vice-President)
Oslo School of Architecture
Postboks 6768
St. Olavs Plass
N-0139 Oslo / Norway
Tel ++ 47 22997000
Fax ++ 47 2299719071
pof@mail.aho.no

Heynen, Hilde

KUL-Dpt. of Architecture
Kasteel van Arenberg 1
B-3001 Leuven / Belgique
Tel ++ 32 16 321383
Fax ++ 32 16 321984
hilde.heyne@asro.kuleuven.ac.be

Horan, James

(EAAE/AEEA President)
Dublin School of Architecture
DTI
Bolton Street 1
Dublin / Ireland
Tel ++ 353 14023690
Fax ++ 353 14023989
james.horan@dit.ie

Neuckermans, Herman

(Treasurer)
KUL-Dpt. of Architecture
Kasteel van Arenberg 1
B-3001 Leuven / Belgique
Tel ++ 32 16321361
Fax ++ 32 16 321984
herman.neuckermans@asro.kuleuven.ac.be

Sastre, Ramon

E.T.S Arquitectura del Vallès
Universitat Politècnica Catalunya
Pere Serra 1-15
08173 Sant Cugat del Vallès
Barcelona / Spain
Tel ++ 34 934017880
Fax ++ 34 934017901
ramon.sastre@upc.es

Toft, Anne Elisabeth

Aarhus School of Architecture
Noerreport 20
DK-8000 Aarhus C / Denmark
Tel ++ 45 89360310
Fax ++ 45 86130645
anne.elisabeth.toft@a-aarhus.dk

Voyatzaki, Maria

Aristotle University of Thessaloniki
School of Architecture
GR-54006 Thessaloniki / Greece
Tel ++ 30 2310995544
Fax ++ 30 2310458660
mvoyat@arch.auth.gr

Project Leaders / Chargés de Mission

Van Duin, Leen

(Guide and Meta-university)
Delft University of Technology
Faculty of Architecture
Berlageweg 1
2628 CR Delft / The Netherlands
Tel ++ 31 152785957
Fax ++ 31 152781028
l.vanduin@bk.tudelft.nl

Harder, Ebbe

(EAAE Prize)
Royal Danish Academy of Fine Arts
School of Architecture
Holmen
1433 Copenhagen / Denmark
Tel ++ 45 32686000
Fax ++ 45 32686111
ebbe.harder@karch.dk

Popescu, Emil Barbu

(EAAE/AG2R Prize)
Institute of Architecture Ion Mincu
Str. Academiei 18-20
Sector 1
70109 Bucharest / Roumanie
Tel ++ 40 13139565 / 40 13155482
Fax ++ 40 13123954

Spiridonidis, Constantin

(Head's Meetings; ENHSA)
Ecole d'Architecture
Bte. Universitaire
GR- 54006 Thessaloniki / Greece
Tel ++ 30 2310995589
Fax ++ 30 2310458660
spirido@arch.auth.gr

Toft, Anne Elisabeth

(News Sheet)

Voyatzaki, Maria

(Construction)

EAAE

The EAAE is an international, non-profit-making organisation committed to the exchange of ideas and people within the field of architectural education and research. The aim is to improve our knowledge base and the quality of architectural and urban design education.

Founded in 1975, the EAAE has grown in stature to become a recognized body fulfilling an increasingly essential role in providing a European perspective for the work of architectural educationalists as well as concerned government agencies.

The EAAE counts over 140 active member schools in Europe from the Canary Islands to the Urals representing more than 5.000 tenured faculty teachers and over 120.000 students of architecture from the undergraduate to the doctoral level. The Association is building up associate membership world-wide.

The EAAE provides the framework whereby its members can find information on other schools and address a variety of important issues in conferences, workshops and summer schools for young teachers. The Association publishes and distributes; it also grants awards and provides its Data Bank information to its members.

EAAE Secretariat

Lou Schol

Kasteel van Arenberg 1
B-3001 Leuven, Belgique
Tel ++ 32 (0) 16321694
Fax ++ 32 (0) 16321962
aeaa@eaae.be
www.eaae.be

EAAE Calendar / AEEA Calendrier

- 27-30 **10** 2004 ■ **European Symposium on Research
in Architecture and Urban Design**
Delft / The Netherlands
Antwerp / Belgium
- 25-26 **11** 2004 ■ **EAAE Prize Workshop 2003-2005**
Copenhagen / Denmark
- 27 **11** 2004 ■ **EAAE Council Meeting**
Copenhagen / Denmark
- 27-28 **05** 2005 ■ **EAAE Confrence**
Leuven / Belgium

***Journées européennes de la recherche
architectur et urbaine***
Delft / Pay-Bas
Anvers / Belgique

L'Atelier Prix de l'AEEA 2003-2005
Copenhague / Danemark

Réunion du conseil de l'AEEA
Copenhague / Danemark

Conference de l'AEEA
Leuven / Belgique