EAAE

News Sheet
March 1988 21

European Association for Architectural Education
Association européenne pour l'enseignement de l'architecture

15 Rue d'Arlon,
Brussels 1040, Belgium.

AEEA

REPORTS ZÜRICH '87:

THE ASSOCIATION'S 10th INTERNATIONAL FORUM: ARCHITECTURAL EDUCATION AND THE INFORMATION EXPLOSION, HELD AT THE ETH ZURICH 5 – 7 NOV. 1987 IN CONJUNCTION WITH ECAADE

Computers have come to stay; they are changing the world whether we like it or not, and gradually they will find their way into the offices of architects and the schools of architecture all over the world.

Against this background the Zürich Forum made an important contribution to the discussions on the use of computers in architectural practice and teaching.

Our host, Professor H. Kramel, and the ETH arranged a very interesting and tight program covering the following important aspects: "The new studio", "The new learning situation", "The changing communication environment", "The changing visual environment".

We have become used at our Forums to being introduced to many themes at a high level of quality and interest, and this one followed this good tradition. The disadvantage of such a tight program, however, was the lack of time to debate the various issues raised in the lectures, but we hope that further discussions will gradually emerge in all Architectural Schools. In this respect the Forum, with its lectures and papers, will provide useful guidelines for information and ideas.

Professor H. Kramel, his assistants and all the other contributors to the Forum did a great job, not only on the intellectual side; the practical and social parts of the Forum were also excellent: the translators, the monumental university building, the foggy view of the city from the terrace, the coffee-breaks and the social dinner on the top floor. For all these experiences –
Thank you very much!

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"The progress of mankind" is based on the design of amplifiers:
– for physical power
– for the senses e.g. microscopes and,
– for the intellect – computers

Tom Maver, President of the ECAADE, started like this and continued in a way which might have convinced the most anti-computer architect of the need to broaden his/her intellect and senses.

Maver has no doubts about the use of computers in all phases of the learning and teaching process or the professional design process. According to him we are already too late in our attempts to learn how to cope with and develop the use of computers in our profession. And the greatest mistake we can now make is to be too modest in our relationship with computers. They can, he assured us, do far more than we can even imagine at the moment.

In his paper, "The New Studio: CAD and the Workstation", Maver drew on the work of Balkovich, Lerman and Parmelee who identified eight main categories of academic use of the computer. (These were illustrated by work produced by students at the University of Strathclyde, Glasgow):

The Computer as a Simulator of Complex Systems: Appropriate software to model the multi-variate behaviour of buildings can help students understand the cause and effect of design decision-making, e.g. what is the effect on life-cycle costs of changing the pattern of fenestration on the south façade.

The Computer as a Laboratory Instrument: Real-time computer systems can be used to monitor, and/or control a range of technical building components – solar panels, elevators, blinds, etc.

The Computer as a Virtual Laboratory: Software models of particular phenomena, e.g. energy flow, can be run parametrically to facilitate systematic identification of key design parameters, their range and sensitivity.

The Computer as a Tutor: We are moving from the early phase of computer-aided instruction (CAI) into a phase of computer-aided learning (CAL) in which the student is the primary agent in the dialogue with the computer offering increasingly detailed comments about what is wrong with the student's proposed solution.

The Computer as a Textbook/Blackboard: The major advantage of computer-generated images of three-dimensional form over pictures on the printed page or blackboard, is that students can manipulate them – by scaling and animation. The capability to 'move-through' space or simulate the sequence of construction is very effective in architectural education.

The Computer as a Special Purpose Learning Environment: Advances in colour graphics now allow true 'experiential' appraisal of architectural space in a way which has hitherto been impossible; equally all can provide direct experience of the acoustics of spaces.

The Computer as a Communication Medium: Already we have computerised access to library catalogues and electronic mail and newsletters. The videodisc will make con-ventional slide collections redundant and will provide, as in the UK Domesday project, a highly interactive text and graphics information base.

The Computer as a Mediator: Network computers offer the prospect of multi-person role-playing games to explore the complex human interactions which take place within the design team and with planners, developers, clients, conservationists, etc.

In 1985 the ECAADE – an association of some 60 European Schools of Architecture – was commissioned by the Commission of the European Communities to prepare a report on the social impacts of CAAD. The Report offers an authoritative view on the implications of IT on architectural practice, education and training, clients and users, as well as research and development; a scenario of the future was generated and is summarised in the Table below.

Table 1. Time-scales for actions and outcomes in CAAD

	Immediate (now)	Short-term (5 years)	Mid-term (5–10 years)	Long-term (10+ years)
Technology	Micros Drafting system Performance models	Supermicros Partially integrated systems Early expert systems	Worldwide networking Expert systems Fully integrated systems	Computer ubiquity AI and natural language systems
Applications	Spread of use of computers in offices Drafting	3-D modelling for visualisation Regulation revision	Performance specification Solid modelling for appraisal	Participation Client-oriented CAAD systems
Impacts	Expense/time to implement Job differentiation; losses and gains	Shortage of qualified people Shift from private to public sector Demise of medium size practices	De-skilling Responsibility and liabilities Breakdown of professional boundaries	Improved building performance Higher grade professionalism De-professionalisation
Education	Architectural students awareness and familiarisation System evaluation Teacher education	In-service training and re-education Clients awareness Undergraduate CAAD systems	Post-graduate and mid-career CAAD education Undergraduate syllabus changes	Computer-assisted learning in design
Research	Monitoring of spread of CAAD Evaluation of CAAD education experiments Validation of existing programs	Human-centred CAD systems Kernel and shells for integrated CAD Interfaces and knowledge bases	Systems for naive designers Computer-assisted learning systems	Optimisation in design Non-traditional ways of communicating with computers

Listening to such a charming and engaging person as Tom Maver it is easy to forget that computers, as we know them today, can still do only three things, as John Landsdown pointed out in his lecture. "The computers can compute functions, that is to say, produce a string of symbols derived from another set they have been given, (usually via mathematical calculations); they can solve problems (usually by the application of logic and mathematics); and they can perform simulations, (that is to say, act in a sense as though they are the things they are simulating). In all these activities, computers must also be repositories of information which they can use as needed."

The computers do not, however, have intuition or imagination or emotion or judgement or any of those other things which are normally considered essential attributes of a good designer. Neither do the computers pay much respect to the very important part of an architect's knowledge which can only be acquired by trial and error in the "real world". This tacit knowledge is hard or may even be impossible to abstract and formulate into words and numbers which can be fed into computers.

So, in spite of the modern computer technology, the computers, as we know them today, are still primitive tools. The first bright idea initiated into the design process, must always come from a creative human mind.

In his lecture, G. Schmitt, from the Carnegie Mellon University, Pittsburgh, pointed out that "Expert systems in architecture and design have many properties in common with knowledge-based systems in other disciplines, but there are some fundamental differences: only a few architectural design problems can be decomposed into simple if-then rules, and most design problems require extensive strategic and planning knowledge. In addition, the architectural expert systems require integration with an intelligent graphics program." With such powerful and useful tools within our reach, either in our studios or at the university, things will not be the same as before.

The consequences of the new telecommunication system for the Swiss society in general were presented by Prof. M. Rotoch, ETH. He based his lecture on the results of a large-scale interdisciplinary research program, which has been going on for years in Switzerland; a very impressive program indeed, one which gave us foreigners a lot to think about.

Professor Dupagne of Liège University spoke warmly in favour of using computers, not only for matters linked with computer science, but also as a learning tool with:

- Questionnaires
- Learning games
- Simulations
- Utilitary tools

He criticised the traditional studios with students and a senior architect as teacher, simulating the professional life outside the School as a very slow process of learning and as too artificial because it "maintains" in any circumstances an interpretative "layer" between the student and "the real world". The students should be "learning by doing", in other words "training by action".

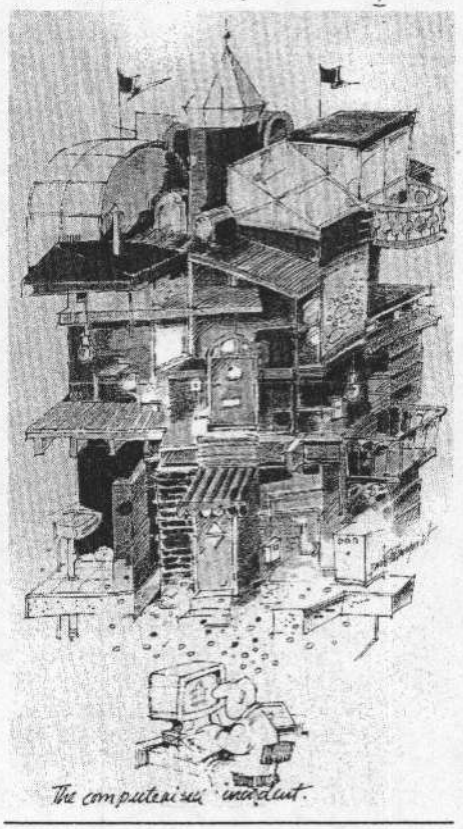
Finally we are tempted to quote a conversation under the heading: "When the computer takes command" between the Danish architect Carsten Juel Christiansen and the American architect Peter Eisenman from the Danish magazine "SKALA" (no. 12 1987):

"You ask me how I choose the shapes, for there are lots of them, and not all of them are suitable. What I have started out to do, is to use the computer to create shapes on its own which I am not able to do myself. I feel that I am restricted by my classical aesthetics as we are all brought up in a certain way concerning the work of the hands and the perception of the eye. The computer makes me free and creates shapes which I do not understand, and which I am not even sure that I like, but they are still magical to me. They contain a kind of energy, something, mysterious by which I am about to be carried away . . ."

This conversation shows the possibilities and problems – by esteeming the incident as an art. We agree that it is fascinating to obtain qualities you have not planned or thought of, by combining different "input", planning – or design systems, as Tschumi did in his design of Parc la Vilette in Paris. It may be a way of illustrating our complicated, quickly changing, pluralistic world. It may be a sort of "inventive game" which may give us associations and ideas and make us aware of creative potentials.

We are not sure that relying on computerized incidents will bring our profession further desirable qualities. But as educators, we are obliged to introduce and give instruction in using the computers wherever it is convenient and helpful for progress in knowledge and in creativity. As "a new tool", we must naturally try its capacity and usefulness in all situations in order to find out where and when to use it. It is absolutely necessary that architects in education and in practice involve themselves in developing this "tool" if we want it to be "a servant" and not "a master".

Birgit Cold and Kjell-Håvard Braten, NTH Trondheim, Norway.



Computer aided design, CAD, is considered a serious problem at the moment both in architectural practice and in architectural education. The design process is becoming more and more complex. The importance of computing in practice is growing, and the lack of knowledge about computer tools is almost total. A whole profession seems in need of re-education. That is a problem in itself which cannot be discussed here.

It is obvious that current architectural students should be given the opportunity to develop some familiarity with computers during their education. What they need is not skills to run certain commercial CAD-systems used in practice at the moment. systems that even may not exist when they leave school. They need some basic education that would enable them to utilize available tools in a creative way in their work as architects.

The curriculum to be taught during four/five years of undergraduate education is growing. There is no room for a time consuming topic like CAD, and there are almost no personnel to teach it either.

In addition to this, a new generation is growing up which is used to playing with electronic games and to programming their robots, and they learn about computers at school. Soon we will get them in the universities. Unfortunately generations of students change far more often than generations of teachers. Do we have an appropriate learning situation to offer these new generations, where they can take advantage of their capacities and experiences? I guess: no.

A Great Challenge

Good architects produce good designs. This is what architectural students are supposed to learn during their undergraduate education: to be good designers. Being responsible for this education we should stop asking: How can computers help us to make good design: Rather we should ask: How can computers help us to make good designers? How can we use new tools to give our students a better education, to make our teaching and students learning more efficient? This is a great challenge for all of us just now, no matter what topic we teach.

We may use computer tools to be more efficient in our daily struggle in general. But what is more interesting is that CAD is a learning and teaching resource in itself. Just to mention some examples: CAD is excellent for simulation of complex (and simple) processes and objects. Students are able to build computer models to study form, colour, light/shadow, acoustics, energy or whatever. Computer models are easy to manipulate. Consequences of different efforts may be shown immediately. Computers may be used as tutors to advise students about materials and structures, ie. individual consultation. It is possible to consult laws and regulations in databases and have cases tested against these regulations. Along with a videoplayer the computer may be used as a textbook or instead of a slide lecture, in individual teaching/learning sessions on the history of architecture, urban planning or great architects' work. "Expert-systems" may even "learn" about great architects and be able to "tell" students how Corbusier or Mies would have solved certain problems under certain conditions.

But even with their artificial intelligence computers are not creative. Good architects are needed, and will always be. And teachers in architectural schools have an important job to do. Computers can help us to a better job: as teachers, as students or as architects. By introducing tools useful for students in their learning situations, their experiences will enable them to utilize tools adequately in their later practice. We must realize that education and practice are two very different situations. Education produces designers and practice produces design. Different tools are needed, at least to some extent.

To generate useful learning and teaching tools will require a lot of time and a lot of money. We must start now, collaborate and exchange experiences and products. Some schools, some teachers, have already started. And ECAADE is paying attention to this task. But this is a challenge to all teachers in architectural schools, and a very important task for EAAE.

Quality Rather Than Quantity

We are in a curious position. Very few tools for use in education exist, and very few teachers have become involved up to now. All efforts to do something about this situation should be supported. At the same time the potential risks are enormous. We have to be careful

about the tools we use ourselves and the tools we introduce to students, and try to be aware of the possible negative effects on our work and our products. We must be critical of the tools, of how we employ them, of the computer-generated results and of how we use these results. I think we should stress the importance of quality rather than quantity in this situation.

So much for computers and the undergraduate education. When it comes to postgraduate education and research activities there is a very wide range of topics to study, and they are all very time consuming and very costly. I believe in specialization, collaboration and exchange of students and staff rather than trying to establish a lot of groups studying exactly the same problems and trying to cover more or less a whole field. In this connection ECAADE has a very important role to play as well. And again: I think "quality rather than quantity" is a useful reminder.

Birgit Sudbø
The Norwegian Institute of Technology, Trondheim.

RAPPORT ZÜRICH '87:

10 IÈME FORUM INTERNATIONALE AEEA/ECAADE, ZÜRICH 5 – 7 NOVEMBRE 1987 "MAITRISER L'INFORMATION POUR ENSEIGNEUR L'ARCHITECTURE"

Une occasion pour réfléchir

Du 5 au 7 novembre derniers, l'AEEA et l'ECAADE ont mis en scène à Zürich, dans le décor classique de l'architecture du Polytechnique de Semper, une confrontation internationale d'expériences et d'idées au sujet des problèmes et des perspectives qu'une information sociale croissante – et ses instruments – ouvrent aux pratiques d'enseignement de l'architecture.

Herbert Kramel, qui a été l'organisateur du Forum, avait posé auparavant, dans ces mêmes pages, quatre questions aux participants. Il s'agissait, d'après ses intentions, de repérer comment les nouvelles technologies peuvent aider les étudiants à mieux comprendre leur milieu (et euxmêmes); de reconnaître l'impact que ces technologies ont sur la représentation et la communication des idées et sur le travail créatif; d'inventarier les "media", différents de l'ordinateur, à même de contribuer utilement à la pédagogie du projet: de mettre à point le changement induit par l'ordinateur dans le concept même d'architecture et ses implications possibles dans le processus de formation de l'architecte.

D'un côté, la revue des expériences et des idées, bien que riche et variée, n'a pas donné (et d'ailleurs elle n'aurait pas pu la donner à cette occasion) une réponse définitive et sûre à ces questions. D'autre part, elle a forcé les limites mêmes du thème proposé: elle a élargi le domaine de l'enquête et en a fixé les coordonnées, quoique provisoires; elle a repéré dans les technologies nouvelles les quelques facteurs capables de provoquer une mutation dans l'approache traditionnelle du projet.

Le programme des trois jours du congrès a regroupé les interventions des conférenciers (largement équipés d'outils audiovisuels et informatisés) autour de quatre noeuds thématiques: 1. le nouvel atelier; 2. la nouvelle situation dans l'appréhension des connaissances; 3. la changement dans l'environnement de la communication; 4. le changement dans l'environnement visuel. Chaque thème a été considéré du point de vue du "status de l'art", du point de vue des implications sur l'enseignement de l'architecture et du point de vue de l'impact social, politique et culturel.

Mes remarques veulent moins rendre compte des nuances de ces noeuds thématiques qu'inviter à réfléchir sur trois lignes problématiques ouvertes, que ces noeuds croisent et traversent.

L'ordinateur protagoniste de mutations. L'ordinateur n'est plus un serviteur sot, ni un étranger: les systèmes experts lui confèrent de l'intelligence, sa présence dans la vie quotidienne se multiplie et le rend familier. Il peut représenter une aide académique efficace et un compagnon de route fidèle pour l'architecte, dès les temps de la formation de celui-ci; il peut devenir le protagoniste d'une mutation bienfaisante de la géographie des lieux, il peut annuler les distances physiques et construire de nouvelles contiguités; mais il peut aussi, lorsque des conditions déterminées se produisent, enclancher une série de mutations – du territorie, de la production, de la vie – peut-être prévisibles, mais certainement pas gouvernables.

Dans le premier rapport, Tom Maver a présenté l'expérience de ses étudiants à l'université de Strathclyde, où ils ont vérifié la justesse de huit catégories de l'ordinateur à l'usage académique. Ces catégories attribuent à l'ordinateur un rôle tour à tour de simulateur de systèmes complexes, d'instrument de laboratoire, de laboratoire virtuel, de maître ("tutor"), de livre de texte/tableau noir, d'outil spécial visant à l'appréhension de l'environnement, de moyen de communication, de médiateur.

Georg Hesse, dans une suite de présentations alléchantes, a démontré que le "computer" a déjà modifié, dans les faits, la géographie des relations internationales: Zürich est apparu très proche de New York, contigu à Tokio.

Martin Rotach, pour finir, à la clôture de la deuxième journée, a constitué le cadre inquiétant d'une Suisse qui sera entièrement informatisée au courant des trente ans prochains, confrontée à trois différents scénarios sociaux.

Le Forum a mis en évidence ces trois points, mais d'autres rôles de l'ordinateur pourront être découverts.

Problèmes et résultats de l'informatisation de la formation de l'architecte. Il s'agait d'un phénomène déjà en cours, lequel puet-être destiné à rapidement s'accroître et à devenir plus complexe.

Dans sa relation (la deuxième) Elisabeth Bollinger a rapporté la façon dont l'Ecole d'Architecture de l'Université de Houston a transformé en peu d'années un outillage informatisé rudimentaire en un équipement complexe et ajourné, à même d'intéresser l'entier iter de la formation des étudiants. D'autres écoles (à Glasgow et à Eindhoven, à Londres, à Liège, à Zürich . . .) sont en train de s'informatiser, gèrent des projets de recherche, globaux ou sectoriels. Il est certainement prématuré d'essayer de tirer un bilan de ces expériences; mais le cadre qui sort des nombreux comptes-rendus met en évidence une quantité de vides et pose quelques points d'interrogation inquiétants.

Les exemples exhibés, couvrant des secteurs divers, vont (pour n'en citer que quelques-uns) de la restitution des géométries fractales cachées dans des édifices anciens à la construction – ou reconstruction – d'équilibres formels et chromatiques, à l'optimisation des économies énergétiques dans la conception des fenêtres d'un hôpital.

Par le biais de ces exemples, le rôle de l'ordinateur en tant qu'instrument et aide technologique à apprendre et en tant qu'exploration et visualisation d'images, en résulte vérifié et, pourrait-on le dire, consolidé, mais, à présent, nous ne sommes pas à même d'évaluer son impact ni sur le procès de la formation, ni sur ses résultats. À Houston, les étudiants entretiennent des rapports avec les tout proches équipements de la NASA et projettent des stations orbitales et des habitats lunaires très semblables dans leur formalisation aux images habituelles de la science-fiction. D'autres essais de projet, liés à des demands découlant de la société site dans le territoire, se présentent moins influencés par les technologies nouvelles que par des maniérismes post-modernes.

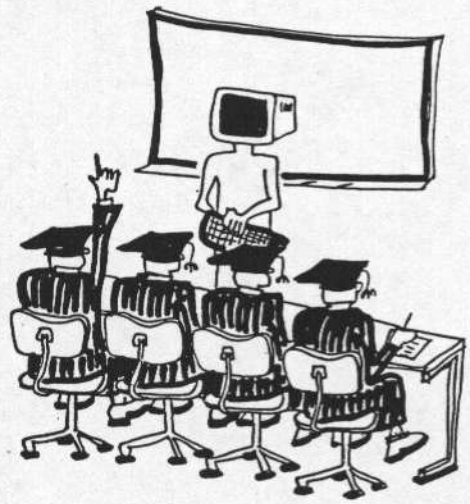
Les possibilités offertes par les instruments informatisés, par l'automation de la gestion des données, sont innombrables, mais, dans les faits, elles sont encore pour la plus grande partie · inexplorées. D'après E. Bollinger, l'école peut-être le lieu privilégié d'une telle exploration, mais il s'agit là d'un cheminement qui reste à parcourir. G. Smeltzer a souligné les difficultés de ce cheminement, lequel doit nécessairement en croiser un autre, celui qui mène de l'ordinateur au projet.

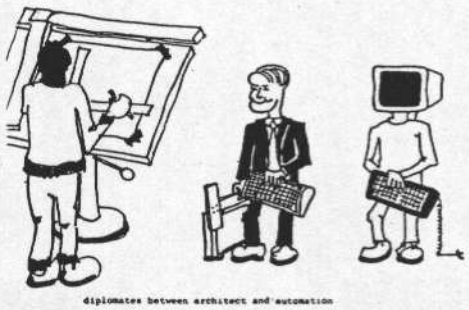
Ordinateur et projet. La pratique du projet – telle qu'elle se déroule en ses lieux députés, soit les ateliers des professionels et les écoles, lesquelles en simulent la praxis – possède une longue tradition: c'est une activité où la pensée et la représentation, la théorie et le travail manuel, s'intègrent mutuellement et continuellement. La main qui ébauche une "idée", l'efface, la manipule, l'enrichit de nouvelles connotations. Le projet, ses contenus, son image, se modifient pendant qu'ils se font. Le dessin accompagne tout le processus du projet: c'est sur le dessin que l'architecte réfléchit, élabore et réélabore ses evaluations, gère ses réflections et ses conceptions.

L'ordinateur impose d'autres temps, qui sont bien plus longs; il met en oeuvre et demande d'autres procès. Le projet devient le point d'arrivée d'un procès qui se revèle seulement en son moment final. Et ces procès ne sont guère encore contrôlables: à cette fin il faut assumer une vision multidisciplinaire et multi critérielle du projet; il faut savoir correctement limiter l'excès d'informations et savoir doser les quantités accettables d'automation en un juste équilibre.

Les univers de l'informatisation et de l'architecture sont pourtant très lointains: quelle diplomatie faut-il instituer pour réduire cette distance?

Maria Grazia Daprà Conti, Torino.





Some of the illustrations used by Geert Smeltzer, Calibre, T.H. Eindhoven, in his lecture.

WORKSHOP 17:

12 – 14 MAY 1988: THEME: "ARCHITECTURE LANDSCAPE"

Joyce Lowman, organiser of this event, introduces the topics to be discussed:

The view of the importance of the relationship and interdependence of architecture and landscape can differ considerably, depending on the educational background of the designer and client. This workshop aims at exploring the different approaches to this area in Schools of Architecture.

To society they are the same thing, the appearance of the general environment can be enhanced or ruined by bad designers, architects, landscapers, planners, etc., in any field.

In the history of environmental design, it is only relatively recently that Architecture and Landscape have been identified by educational establishments, as totally separate units with separate courses.

To achieve quality, some specialism has always been the case but unfortunately this trend has led to almost a total lack of appreciation by one of the other's needs. Architecture students are to study buildings. Landscape students to study planting, landform, etc.

The following issues will be debated in a series of seminars:

1. Joint projects in architecture and landscape: through our own and others' experience we hope to establish some basic guidelines for both staff and students from the two disciplines undertaking such projects.

2. The role of landscape in the rehabilitation of inner city areas: is this an important element to include in our courses, and if so, what skills should be covered?

3. Site appreciation and its impact on design: the problem of educating a student to see the relationship of a building to its environment is universally a difficult concept to establish. How this is attempted and whether landscapers should play a more important part in architectural circles will form part of this seminar.

4. Ecology: design issues related to the macro environment. How can we approach these through the schools?

5. The appreciation of landscape throughout history: do we need to place more emphasis on the study of precedent and theory in the relationship of architecture and landscape?

Provisional Programme:

Thursday 12 May: Registration and welcoming session followed by an introduction to the seminars and a visit to the School of Architecture and Landscape. Evening: Reception and Dinner with guest speaker.

Friday 13 May: Lectures and introduction to seminars. Evening: Tour of Greenwich.

Saturday 14 May: Tour of London Docklands Development Area followed by a plenary session with seminar reports, farewell ceremony. Evening: boat trip to Westminster.

Sunday 15 May: Tour of recent joint development projects in London.

Members wishing to contribute papers to the Workshop please contact Corrine Delage, School of Architecture and Landscape, Thames Polytechnic, Oakfield Lane, Dartford, Kent DA1 2SZ. Tel: Dartford (0322) 21328. Further application forms available from Jan Borders, LIBES Office, Thames Polytechnic.

Change of Address:

Please note that the official address of the EAAE is to change. The address given in this News Sheet is temporary.

PROFILE:

SCHOOL OF ARCHITECTURE AND LANDSCAPE, THAMES POLYTECHNIC, DARTFORD, KENT, ENGLAND

The School has a long history of running both full and part-time courses in Architecture and Landscape Architecture, awarding Honours Degrees and Diplomas with professional recognition.

Teaching staff are involved in both practice and research.

As part of the Built Environment Faculty, the School also takes an active part in cross school teaching activities and the Faculty has started the London Institute for Built Environment Studies for professional short courses.

The Faculty is fortunate in having an attractive residential campus on the outskirts of London and, though only recently established, the advantages are considerable, particularly in sharing computing facilities, library, etc. The Architecture and Landscape students benefit from large joint studios, which have enabled informal contacts, as well as organised integrated projects to take place. These have differing success, but gradually the design awareness of the importance of the appreciation of the 'Architecture Landscape' relationship has shown in greatly improved design projects. We have still a long way to go, as well as learning to work with the Civil Engineers and Surveyors in the Faculty.

Their expectations and those of their staff rarely include an understanding of the interaction and total design process needed to produce a truly integrated project. Our environment is littered with such barren schemes. The architect is the major defaulter but there is also a noticeable lack of pioneer spirit among Landscape designers.

How do we as educationalists amend this situation – joint courses such as ours would appear to have the ideal situation to start. But even in such close proximity, overcoming the general attitude of specialism has proved difficult.

It is important for the quality of our future environment that we take this problem aboard for both large scale and new projects, as well as the areas of inner city rehabilitation. Each country has a different approach, exchanging ideas through lectures and seminars can broaden our own expertise and possibly establish an outline code of practice for teaching an integrated approach to Landscape on Architecture courses.

The first part of the meeting will be on the Faculty of the Built Environment (Dartford Campus), where there will be the opportunity to meet students at work in the joint Landscape Architecture Studios. The second half will be held in Greenwich and at the Polytechnic's new Docklands base at Wapping. The Workshop will be led by Corrine Delage, a French architect with a Landscape qualification who is the 3rd Year Architecture Studio tutor, and Michael Lancaster, an architect landscaper who is head of the Landscape Division.

WORKSHOP 18: LA CORUÑA:

20–22 OCTOBER 1988: THEME: "THE PLACE OF THE TECHNOLOGIES IN CREATIVE ARCHITECTURE"

José Antonio Franco Taboada, organiser of this event introduces the topics to be discussed.

1. "Fine Art" teaching as opposed to the Polytechnic approach.

Up to what point can or should technology influence architectural design? Of course there is no dispute about the necessity of understanding the various constructional processes, the structural systems and finishing techniques, but the understanding of calculations for structural and fundamental designs surely belongs to civil engineering? Must the architect perform design calculations and be required to operate with the competence, and at the level of an engineer in his designs?

2. The current situation regarding technical expertise of the profession in Europe.

From the architect to the civil engineer by way of the architect-engineer? What is the "Real" level of technological teaching in the schools of architecture? Are the professors in technological disciplines architects or engineers? Are they Architects who teach the techniques to be employed or engineers who instruct the future architects in complementary disciplines and aspects of their career?

3. The rôle of the architect in the technologically developed societies.

The architect considered as a professional from whom society demands a fundamental technical service "versus" the architect as an intellectual, an expert in art, history, etc. In both cases, the architect as a researcher and University professor.

4. The new technologies facing the architect.

The problem of a continuous training. Should a Doctorate in Architecture be awarded for specialization, for investigation/research, or perhaps include both? Could it be organised in a similar way to medicine or is – as is "de facto" the practice in some countries – the best way a general training of architects that opens the way to other "specialisms" and particularly in the technological fields?

5. The incidence of technological alternatives (e.g. Bioclimatic Architecture) in architectural design.

Is this reflected in the teaching curriculum? What is the possibility of an interchange of researchers between schools to broaden experience of different techniques and approaches?

6. How are the new technologies to aid the teaching of Architecture and how are they reflected in professional practice?

Is the first a consequence of the second or is the reverse the case? At what point will computer-aided design (CAD) automate architectural design? (We are starting, of course, from the assumption that computers are accepted in all purely technological aspects of architecture).

7. With the possibilities that robotics provide in the field of construction, will the architect become a mere user, or does he, on the contrary, enter the process of rationalizing constructional methods in order to automate them?

In other words will the architect contribute to the future process of rationalization that robotics can provide or will he distance himself from these mechanical processes in the cause of art for art's sake?

Provisional Programme

Thursday 20 October: Registration and opening of Workshop (noon). Introductory session and first seminars.

Friday 21 October: Seminars continue. Formal Dinner in the evening.

Saturday 22 October: Conclusion of Workshop. Journey to Santiago de Compostela followed by a Reception by the Rector of the University of Santiago, and a guided tour around Santiago.

Further details of Workshop 18 will be distributed together with the application forms. Contact: José Antonio Franco Taboada, Escuella Tecnica Superior de Arquitectura, Castro de Elvina s/n 15000 – La Coruña, Spain.