The Discipline and Profession of Architecture

I wish to approach our theme, "Research and Practice in Architecture 2000," through an exploration of two related terms that I have explored on other occasions: the discipline and the profession of architecture. I will first look at some instances of research and practice that also introduce issues about the discipline and the profession. Subsequently I will turn to a more theoretical concern with the concepts of discipline and profession.

**Types of Research in the Discipline and Profession of Architecture**

In selecting examples of research and practice for consideration, I beg indulgence that I use examples taken from current activities at my university, the Massachusetts Institute of Technology. Equally apposite examples are numerous and widely distributed; I simply employ those for which materials are available to me and of which I have some direct knowledge. My cursory presentation of these materials is intended solely to establish types of research.

I turn first to some of the work of Julie Dorsey. Figure 1 shows the development of a patina on a small statue of Buddha. The virtual Buddha model was created with a 3D laser scanner. The patina is modelled as a three-layered surface: the base copper, a tarnished layer, and a green patina. The thickness of the various layers depends on position, wetness, and other factors. This research offers an advance in sophisticated representation techniques, which can be applied in movies and other computer generated visualizations. Figure 2 illustrates similar work representing the effects of weathering on buildings. This need not be a matter of representation only. The technique also enables virtual explorations of the later appearance of buildings when employing different materials or details.

Most impressive in Dorsey’s work is that she is not merely “painting” a presumed future appearance, but is researching the physics of environmental effects on materials and developing representational programs that rely on that scientific substrate. Thus we observe here research on the physical phenomena of weathering, the modelling of those phenomena, and research on their computational representation.

Yan Chen works with Computational Fluid Dynamics (CFD) as a research technique applied to indoor air quality, natural ventilation of spaces, urban wind problems, and the like. In one study, Chen cooperates with the Harvard School of Public Health in studying the indoor air quality of ice rinks. Fumes from ice resurfacers are the main contaminant in ice rinks. These fumes are very difficult to remove due to the cold ice surface and the enclosing screens around the rink. The graphic portion of figure 3 is a CFD visual representation of a section of the rink showing carbon monoxide concentrations over time. Similar representations plotted air velocity from a ventilator and air temperature. The graphs accompanying these representations demonstrate the close correlation of the CFD computer models with empirical measurements. Collectively, these analyses provide evidence that innovations in ventilation techniques can be explored in efficient virtual models before embarking on physical implementation.

The MIT campus has a serious wind problem generated by the tall Green building (I. M. Pei) in the center of the campus. Chen constructed a CFD model of wind flows on the campus that yields patterns closely simulating observed wind conditions. This model of existing conditions was then modified to test aspects of Frank Gehry’s design of the Stata Center just north of the problem area. Gehry had proposed a large glass wall and roof (indicated as black in figure 4) that was intended to reduce the wind at ground level around the Stata Center. Chen then modelled the Gehry building without the glass roof,
demonstrating that there was little change in wind conditions. The roof was eliminated at a saving of several million dollars. Chen's work combines research on computational techniques, the construction of virtual models via these techniques, and research on physical models both for their own sake and as tests of virtual models.

With both Dorsey and Chen, we observe contributive research through the virtual modelling of phenomena. Their work is directed largely to materials and construction specialists and heating and ventilating engineers. Problems are posed that yield well to research techniques and are fundable. In such research we can observe transitions from technical to rather abstract environmental issues. The success of such research will lead professional architects to employ these techniques, but I would say this is not yet intrinsically architectural research.

Examples could be multiplied of research deriving from applied science and engineering that comes to affect the profession of architecture. On occasion, however, inquiry within a technical area does become genuine architectural research as well. I would offer the example of an engineer whose work I am currently exploring: Eladio Dieste. Dieste worked mainly in his native Uruguay. His active career spanned from 1943 to near the time of his death in 2000.

Dieste's research on construction with reinforced ceramic masonry units - in itself impressively technical - is, in the hands of this master, elevated and pursued in such way as to open fundamentally new architectural potentials. Beyond the stunning technical achievements, Dieste's work exemplifies propositions about the relations of materials, tectonics, and architectural conception.

In the present context only a few words and illustrations must suffice to indicate the magnitude of Dieste's technical and architectural contribution. Consider first the daring of a construction as modest as the canopy for gasoline pumps (fig. 5) - a four-way cantilever in masonry! Many of Dieste's buildings for productive uses or for sports facilities employ vaults of double curvature that create elegant spacious interiors, as here in a citrus packing plant (fig. 6). The discontinuity from one vault to the next provides a beautiful, balanced light.

Indeed, Dieste's mastery of light is a confirming principle in the recognition of this accomplished engineer as also a fine architect. As in the packing plant, the light can be as effective in pragmatic terms as it is in revealing the qualities of space and structure. When Dieste builds slim masonry towers for television antennas or church campaniles, the perforations transform a highly constrained interior space into a visual wonder. Figure 7 only begins to reveal the qualities of light that are so effective in the transcendent space of the church in Durazno with its incredibly thin masonry walls and folded plate roof. By contrast, the sinuous walls and vaults of the church at Atlántida (fig. 8) give more emphasis to the pyrotechnics of the structure itself.

Individual works by Dieste are instances of impressive professional performance. They are more, however, and certainly collectively they represent a successful, transformative contribution to the discipline as well as the profession of architecture. In brief, I see this as disciplinary research and innovation achieved through concerted practice.
With the Diste Symposia organized for Montevideo and MIT in 2000, my colleagues and I, through the selection, study, and positive assessment of Diste’s production, also provide an example of a form of research that supports an architectural position.

I conclude this survey of types of research with examples from work by MIT colleagues in architectural design. Andrew Scott and Paul Donnelly were the winners in a 1996 national competition for a pavilion incorporating integrated photovoltaics. Among the images that generated “The Intelligent Pavilion,” were conventional techniques of representation (sketches, diagrams, drawings, and physical models), CFD models, and computer visualizations (figs. 9 and 10). But now the new techniques appear less as research areas in themselves than as analytic and visualization tools to advance an architectural agenda. There are concerns with technical issues: minimizing solar heat gain and seeking ventilation, and thus achieving environmental comfort through passive means. These goals appear in the context of issues supporting efficient use of energy and sustainability. However, these technical and environmental issues are now posed as an architectural agenda. Architectural form is a fundamental variable in the research, and the synthesis of other issues such as materials, tectonics, and use is evident. The research propositions here are about an environmentally aware architecture, but indeed about architecture.

Scott and his colleagues in the Building Technology group at MIT are now engaged in research and development of sustainable housing in China. Their work ranges from material and assembly selections through unit and building design to urban design. There are several research enterprises in this work but basically this is a synthesizing professional study. Taking the two Scott projects together, this is research at the intersection of not only the profession and discipline of architecture but also at their intersection with the engineering disciplines. Note also that, despite the applicability and the environmentally desirable qualities of such work, it is nonetheless research that is difficult to fund.

The architect Ann Pendleton-Jullian’s book The Road That Is Not a Road inventively reveals a Chilean experiment in culture and society — and in architecture and architectural education. Over the years, members of the school of architecture of the Catholic University of Valparaíso built an environment to test and advance their architectural agenda — exploring reciprocal
relations of place, making, use, and contemplation. Ann's book is written with such deep perception that there are certainly two disciplinary research enterprises here: the Chilean experiment and that of Ann Pendleton-Jullian. On the face of it, her research is a historical and critical inquiry about an experimental environment. She reveals, however, the significance of that experiment for the discipline of architecture, for architectural pedagogy, and in the process advances her own architectural agenda.

In her competition design for a bioclimatic house for Tenerife, Pendleton-Jullian began with studies of the climate and culture of Tenerife. Early sketches integrated a growing knowledge of environmental issues with her developed architectural sensibilities (fig. 11). The unit shown here (fig. 12) was refined in precise drawings and physical models. It was also tested, especially for sun and light conditions, with computer models. Finally there were similar studies for the grouping of the units. There is obviously an environmental agenda at the core of this enterprise, but now an architectural environmental agenda that will pose challenges to – and possibly provoke criticisms from – the technical community. Architecture challenges a collective enterprise.

Obviously I have not fully explored these examples. My concern was rather to illustrate certain types of research:

- research from other disciplines directed to architecture;
- professional research pursued to the point of expanding our understanding of the discipline of architecture;
- research within the discipline of architecture which may or may not have an evident time horizon for impact on the profession. Such research is also illustrated by the presentations of Carsten Juel-Christiansen and Patrik Schumacher in these Helsinki meetings.

The first of these kinds of research, the least intrinsically architectural, is the easiest to fund. The second is effectively funded through practice, though only with unusual commitment; while advancement of the discipline is plausibly the goal of many practitioners, it is actually quite rare. The third type of research is fundamentally architectural, and very difficult to fund. Peter Carolin addressed this challenge in these meetings.

Where should these types of work be done? As admirable and desirable as is the second – that achieved through practice – it is clearly difficult to achieve through schools or academies. The first, which brings other disciplines to bear on architecture, is the easiest to achieve in large, diverse institutions such as universities. This should be done, but the schools of architecture within these institutions should not be satisfied to be solely the translators of other disciplines to architecture.

Fundamental research within and for the discipline of architecture is challenging both conceptually and financially. It
should be a central issue for schools of architecture within universities, but still more, it should be the fundamental enterprise of any narrowly focused architectural institution. It is plausibly an appropriate commitment for such an institution as the Alvar Aalto Academy.

With these examples and first thoughts, I turn to what I earlier termed my more theoretical consideration of the concepts of "discipline" and "profession."

**Discipline and Profession**

Academic disciplines may be charged with irrelevance, as occupying "ivory towers". Then again these disciplines may project themselves into worldly affairs, courting criticism either for their inconsequence or for the corruption of their ideals. In the academy today one encounters a mistrust of disciplinariness as laying false claims to authority. There is also often a curious absence of the notion of "profession" — perhaps because both critics and supporters emphasize academic disciplines rather than those disciplines such as medicine and law that are recognized to prepare professionals. Disciplines should be subject to critical examination, but in architecture I conceive the discipline of architecture as providing an open and liberating environment. In what follows I look at architecture, exploring how a "discipline" may be articulated when it is part of a field that also incorporates a "profession."

In recognizing both the profession and the discipline of architecture, I do not intend an invidious distinction, but rather simply to acknowledge different responsibilities and practices in these two modes of attention to a field. To launch this consideration of the profession and the discipline of architecture, I find it necessary to consider these distinctions in the context of architectural education.

**Discipline and Profession in Architectural Education (I)**

Recognition as a school of architecture is to be a professional school of architecture. In many countries, schools hold this status by a license from the state; in the US schools are accredited by an organization, the National Architectural Accrediting Board, which is partially controlled by the national professional organization, the American Institute of Architects. Recognition as a professional school implies an important responsibility to society — preparing people to enter the practice of architecture. To this end, we have professional degree programs (indeed, it is the degree program, not the school, that is accredited). In most, if not all instances, our schools of architecture conceive of this professional degree program as the centerpiece of the school; I imagine few have any quarrel with that focus. Increasingly, however, our 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?

**Discipline and Profession of Architecture**

To explore these issues I distinguish between the profession of architecture and the discipline of architecture. We might imagine a diagram in which the profession of architecture extends horizontally and is intersected, vertically, by the discipline of architecture. Thus the two realms of activity intersect; they are partially but not wholly coincident.

**Profession of Architecture**

The profession is centrally concerned with the current structure of practice in order that it may fulfill commissions to the highest standards. Its concerns are mainly synchronic and synthetic. Admittedly, the profession does have a temporal dimension that possesses both invention and memory, but these are synchronically structured. That is to say, within the profession memory and tradition survive operationally (currently, for example, modern architecture and critical debate about it). Other aspects of the tradition survive in the discipline but are not professionally operative (the guild systems of medieval builders, for example, and even their architectural forms and technologies). The profession is also inherently projective — it brings something into being. Yet it cannot be so exploratory that its projections are outside the resources and time-scale of its client needs. On the other hand, there are numerous conditions or activities that are necessary to a successful practice, and thus deserving of attention within the profession (examples might be public relations, office management, and the state of the economy). However, these issues are rarely central to the conception and under-
standing of architecture in a stricter sense. Thus, viewed from the profession, we see an appropriate inclusion of concerns that are not intrinsically those of architecture while certain forms of architectural knowledge are strategically excluded.

Discipline of Architecture
We may also look at this situation from the vantage point of the discipline of architecture. 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. Trabeated (post and beam) systems and wall and vault construction appeared early in the history of architecture and are still studied in purely technical terms; even when viewed purely technically, such systems are necessary to architecture. When, however, these systems are understood to create opportunities and constraints for the definition of space, the control of circulation, and the play of light, these are issues of the discipline of architecture. To distinguish the surface of a wall from the wall itself and to find in this distinction the opportunity for representation are propositions within the discipline of architecture.

The nature of a "proposition within the discipline of architecture" may be clarified through a short exposition of Le Corbusier's "Five Points." With the development of reinforced concrete, the rigidity and many of the technical limits of trabeated structures were swept away. The possible span of a beam relative to its support increased greatly. Cantilevers could be much more extensive, and, thanks to the continuity of the reinforcing rods, could diminish the forces in a neighboring bay of the structure. These traits were recognized in the technical development of architecture, in the engineering aspect of architecture. Le Corbusier, however, developed a series of related "points" for architecture that were made possible by this new technology. As presented in his famous diagram of The Five Points, and demonstrated in an exemplary work based on those principles — such as the Villa Savoye — Le Corbusier asserted that: 1) the building could be carried on a sparse array of columns (pilotis) and could thus leave the ground plane open; 2) the closure between inside and outside and from room to room (or better now, space to space) could be independent of the structure, thus allowing a "free plan" relative to the structure and, independ-ently, from floor to floor; 3) and 4) the independence of the exterior surface from the supporting structure allowed a free development of the facade, which Le Corbusier showed in the relatively constrained version of the long horizontal (what we call "strip") window; and 5) the flat roof slab that permitted a roof garden. Even individually, but especially collectively, these points recognized new, inherently architectural potentials beyond the strict technical capacity of a new structural medium. The Five Points offer an example of the growth of architectural knowledge: new architectural opportunities made possible by a new technology but nonetheless intrinsically architectural. Le Corbusier wrongly propagandized his invention as one possessed of a temporal necessity, but his forceful invention did require that henceforth architects had to choose to work with these principles or not. Le Corbusier here made a contribution to architectural practice, but more fundamentally to the discipline of architecture.

The structure of knowledge within the discipline is such as to preserve the memory of, indeed to continue to study, that which is external to the range of 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 may see this in such designs as Piranesi's Carceri, Ledoux's "revolutionary" projects, Frank Lloyd Wright's "Broadacre City," and Constant's visions of "New Babylon." Today we see it in visions of the environment of our prophesied cybernetic future. These last comments point to a distinction in the products of the profession and the discipline. The physical artifact, typically a building, as the product of the profession, 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)
If we now turn back to schools and degree programs, I think the implications of my line of argument 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. The less than full congruence of the domain of the profession and that of the discipline entails the presence within a school of architecture of persons, types of inquiry, and subjects that do not always address one another directly. Indeed, they may quite properly within a current time frame be irrelevant to one another. Beyond the condition of 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.

But of course it would be a pity if these two enterprises did not recognize their 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 primarily remembered for their theoretical contributions within the discipline of architecture, yet numerous architectural works could not have taken the form they did 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, while 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. Put somewhat differently, the intersection of the profession and the discipline, whether in schools or more generally, should not be emphasized to the extent of undermining the synthetic activities of the profession that must reach outside the discipline. On the other hand, one should not honor the discipline only if it is of immediate or proximate utility.

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 the fruitful distinction between professional and research degrees is fundamental.

Escalation of Research in Professional Architectural Education

This last statement is under challenge. In February 1996, the European Association of Architectural Educators held a meeting at the Technical University in Delft on the topic "Doctorates in Design + Architecture." The impetus for the meeting was pressure within the European Community nations to move toward an architectural professional degree termed a doctorate. An as yet small but increasingly vocal number of advocates for the same policy exist in the US. As a matter solely of terminological change, this would be merely an unfortunate example of degree inflation. But, at least in some quarters in Europe, the change in title is accompanied by a change in the agenda of professional architectural education – moving it into the realm of research degree. At first glance, a higher degree title may appear to be a positive step toward a more rigorous architectural education and in step with changes in architectural production. However, to date professional education in architecture has been a course of long duration which, nevertheless, few would argue over-qualifies its graduates. Put more positively, architecture students begin with little specialized preparation from secondary or undergraduate education and, encountering a rather complex, certainly broad, field, need the current extended degree programs to 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. In my own school, professional students are increasingly introduced to research techniques; professional 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, but we would not think
to demand an independent advanced (let alone 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 both endangers the professional degree agenda and devalues the traditional doctoral degree. In the terms discussed in this paper, 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. This demand seems too much to ask too early of these students. Furthermore, the new demand would be made in a context where professional and disciplinary studies are diffused into one another at an early stage of education, potentially weakening these two domains within which the intersection is recognized.

Nonetheless, the profession of architecture and the professional degree programs should be 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 that is 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 Ph.D. degree. Perhaps advanced disciplinary research is the realm for a professional doctoral degree in architecture, though I am skeptical. I rather think 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.

Conclusion
I have sought to articulate a range of research and teaching activities that should be complementary to one another while providing for the growth of the discipline and the enhancement of the profession. Such activities have long existed; that is why we already have the profession and the discipline of architecture. The promise of advanced academic research is both to accelerate and deepen these inquiries and the related projections. Intrinsically, I don’t see any great problem in encouraging this work within our research universities (or other private or governmental research institutes [or an academy]).

However, there remains the question of the willingness (within any of the research institutions just mentioned) to fund research that maintains a commitment to the discipline of architecture – as contrasted to research in technical matters that support, surround, or intersect architecture. Even funding for significant technical areas such as energy, sustainability, and air-quality is scarce; intrinsically architectural research is typically deemed too esoteric for funding. Yet the discipline of architecture does intersect with the profession, and together they shape our physical environment that is too often rightly subject to both esthetic and environmental criticism. We need a more open view of how disciplinary research can contribute to the improvement of our knowledge and our environment.

I conclude with some observations about my use of the term “discipline” in contrast to other usages. The question has been posed: “Are there ‘architectural’ questions, or are there simply a variety of questions that can be asked of architecture?” I say there are both (consider again the Le Corbusier example offered above); both are important and it is important not to take one for the other.

In my comments, I have used the term “discipline” in a positive sense: as a key vehicle in the production of knowledge and the advancement of the field. I see the discipline as an open and liberating environment: the place where what appears anachronistic or visionary, currently inappropriate or unrealizable, can be thought, preserved, imagined, advocated. I see the discipline as that which fosters participation in the field by nonprofessionals: preservationists, local historians, visionary engineers, builders, advocacy groups, and citizens, to name a few.
This view stands in contrast to the not uncommon suspicion of "disciplines".
One might imagine the agenda of the Alvar Aalto Academy to be the making of contributions to the discipline of architecture – or at least of facilitating the role of professional architects within the broader discipline. We have too little institutional support for these activities that advance discipline, and hence the profession, of architecture.

Photo credits
Figs. 1-4, 9-12: The named researcher and/or architect.
Figs. 5-8: From Eladio Dieste 1943-1996 (Seville, Spain: Consejería de Obras Públicas y Transportes, 1996); Vicente del Amo Hernandez, photographer.

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He was a Fulbright fellow at the Technische Hochschule in Munich and subsequently a fellow of the John Simon Guggenheim Foundation and the American Council of Learned Societies. He received MIT's Graduate Student Teaching Award for 1985 and the King Fahd Award for Design and Research in Islamic Architecture, 1985-86. He was a Commissioner of the Boston Landmarks Commission from 1980 to 1987, and subsequently a member of the Board of the Boston Preservation Alliance. He served the maximum two terms on the Designer Selection Panel of the Massachusetts Port Authority. He was chairman of the joint Harvard/MIT Aga Khan Program Committee from 1992-99. He is currently on the boards of directors of the Boston Society of Architects, the Fulbright Association, and the Batzu Foundation.
Anderson received his bachelor's degree from the University of Minnesota, his master's in architecture from the University of California at Berkeley, and his Ph.D. in history of art from Columbia University in New York City.

Discussion II
at the Alvar Aalto Academy, Tiillimäki, Helsinki, March 11th 2000

Esa Laaksonen: I should probably first introduce you to those people who haven't been in the sessions before. Then Juhani Pallasmaa has promised to start off with a short statement. What I wish this afternoon is that our foreign guests would somehow give us their ideas and suggestions on the nature of the activities the new Alvar Aalto Academy could be arranging or dealing with. Of course, there are quite a number of things going on already, but I would be really glad to start a discussion around a kind of a cleared table. [Introduces Harri Hautajärvi, Tuomo Sirkkii, Anni Vartola, Pentti Kaireja, Simo Paavilainen, Vilhelm Helander, Eeva-Liisa Pelkonen and Juhani Pallasmaa.] I think I'll give the floor to you, Juhani, now...

Juhani Pallasmaa: I thought that since the subject matter of the seminar is the relation of architectural research and practice, I might mention a couple of things to start with: firstly, the tradition of architectural theory and critique in Finland, and secondly, some facts about the beginnings of the Alvar Aalto Academy.

There is a common understanding that theoretical survey or criticism has not had a strong role in Finnish architecture. That is both true and false. It is true in the sense that we have not had theorists who would have appeared on the international stage. On the other hand, there have been architects, critics and individual examples where a critical view, expressed either professionally or publicly, has changed the course of events.

Just to give you a couple of examples. At the beginning of the century there were two architects who had quite a strong role in terms of formulating architectural ideology – Frosterus and Strengell. Their criticism of the [Helsinki] railway station competition of 1904 turned the course of events and marked the end of national romanticism. They promoted ideas of modernity, as this was understood at that time, so strongly that it changed the course of events. Again, when Alvar Aalto moved from Turku to Helsinki in 1932, Helsinki was much more con-