

Architectural Practice, Education and Research: on Learning from Cambridge



This paper reports firstly on the interrelated roles of architectural practice, education and research and focuses on the unique contribution of the Cambridge School in this area. The following section presents the drawbacks derived from a research assessment exercise where architecture was no longer considered an academic subject to be developed in a research intensive university and, finally, concludes that architecture in Cambridge succeeded in spite of its problems, not in the absence of them, which suggests strongly that other European architectural schools can learn from it.

By Mário Krüger

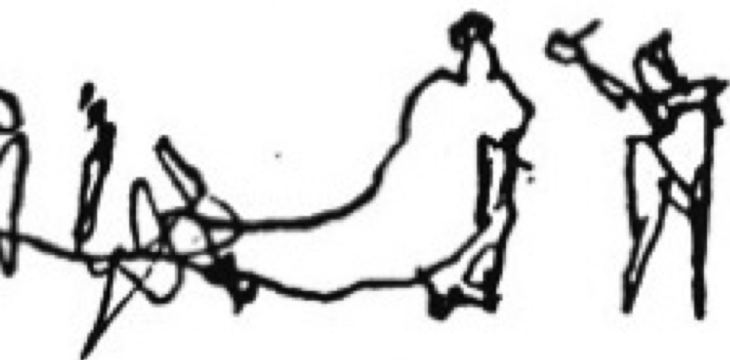
Established in 1912, the Cambridge School of Architecture celebrated last year its centenary within an adverse economic climate for architectural education, practice and research all over Europe.

If it is certain that the School in its early years can be "best interpreted as a combined school of architecture and art history" (Saint, 2006), it is equally true that it had its *momentum* when Leslie Martin was appointed its first professor of architecture in 1956.

Let us recall, in this respect, Martin's words at the 1959 Conference on Education in Architecture held at Oxford and organized by the Royal Institute of British Architects (RIBA) where he raised the advantages of architecture teaching in a university background (Martin, 1983): "The fundamental feature of education in architecture is that it involves different types of knowledge. From the university point of view this raises two questions. Were architecture to occupy the place it deserves in the university and if the knowledge it promotes were taught at the highest level it will become necessary to establish a link between the [...] arts and the sciences [...]. Furthermore, universities will be asked to provide much more than the study of the techniques or parts of this or that form of knowledge. It is to be hoped that knowledge will be orientated and developed by principles, that is, by theory. Theory [...] is the set of principles which explain and interrelate all the facts of an area of knowledge. Research is the instrument by which theory advances. Without it teaching can have no direction and thought no incision."

As Professor at Cambridge, Martin developed to the full the significance of architecture being taught at the University and not, as in the past, at specialist schools like the Beaux-Arts and the Bauhaus. With his appointment as head of the Department of Architecture at Cambridge the institutional refoundation with the Arts and Crafts tradition, which still prevailed in the university at the time, took place. In fact, in the Department and until 1961, only three years were taught which led to a B.A. degree but which was not recognized by RIBA for professional practice. Besides this, the kind of teaching was, to a large extent, a subsidiary of a tradition founded by Edward James Prior in 1912 when he was appointed Professor of Fine Arts at Cambridge. Prior, who had been a student of Norman Shaw and an active member of the Arts and Crafts movement, wanted to "establish at Cambridge, where there were countless researchers, a school of research on the fundamentals of construction" (Hawkes, 1996).

This objective, pursued but not achieved by Prior, was not immune from the intellectual climate of Cambridge



< Figure 1. Sketch made by **Le Corbusier** illustrating the Doctor Honoris Causa's procession in 1959. *Carnet de Croquis* n° 57. © Fondation Le Corbusier.

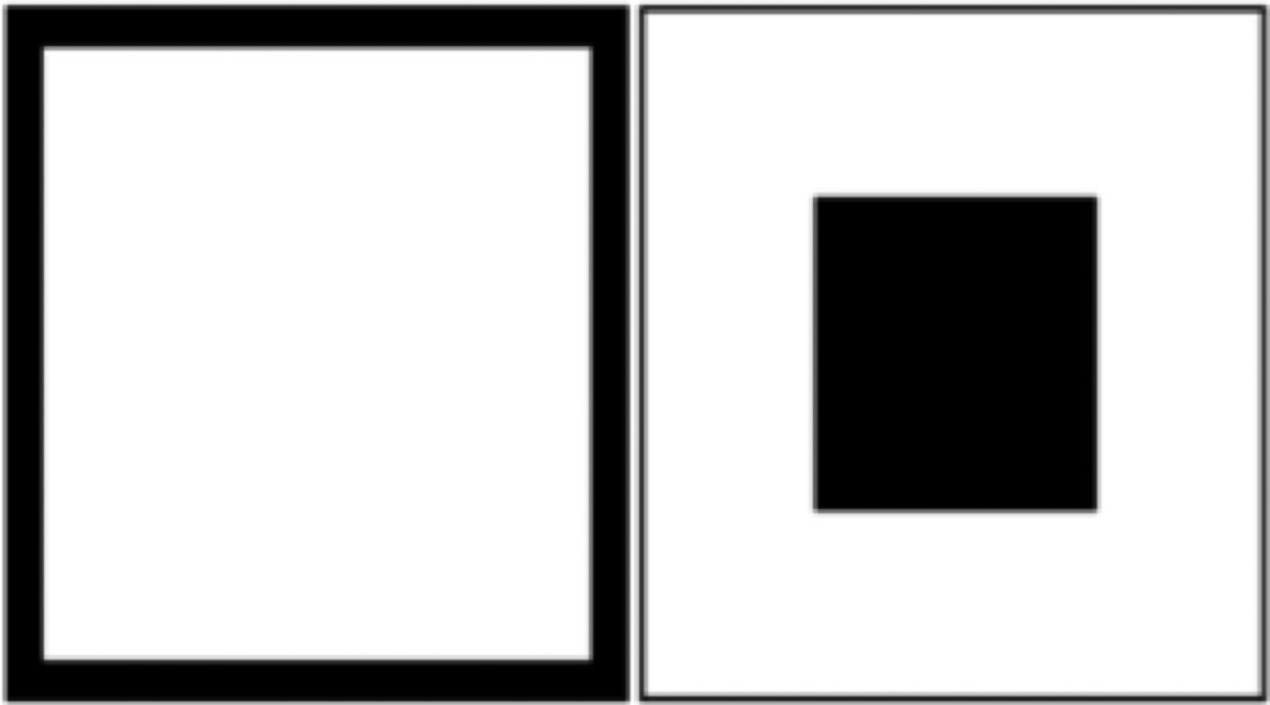


Figure 2. Emblem of LUBFS and Martin Centre for Architectural and Urban Studies showing diagrammatically land use occupation for perimeter and centralized built forms.

in the 30s and 50s. Earlier, Bertrand Russel with Alfred Whitehead had proposed the logical fundaments of mathematics, Ludwig Wiggstein was developing an analytical way of understanding language even going as far as to ask his students at King's College "and why not an arithmetic of forms" and Alan Turing, while still an undergraduate at the same college, was creating a theoretical machine which could pass through one stage to another by following a set of proscribed rules, thus anticipating the logical structure of today's computers.

In 1957 Le Corbusier visited the Department of Architecture at Martin's invitation where, in a moment of jubilation after Le Corbusier's lecture the sculptor Henry Moore with his back to the blackboard sketched the figure of the eminent architect.¹ In an expressive way, Martin's program for the Department of Architecture at Cambridge was symbolically mapped out for him—look straight ahead, adopt design as a disciplinary instrument and deepen the legacy of the Modern Movement. In other words, research, compose and develop.

It was under the proposal of Martin that Le Corbusier received the honorary Doctorate by the University. In this event, as the traditional procession left the Senate House, three architectural students started "showering the great man with confetti and shouting 'À bas l'Académie!' (Down with Academia!), Le Corbusier's well-known tirade against the *École des Beaux Arts*" (Sergeant, Su-

met & Mullin, 2012). That event today sounds like music [figure 1]. Let us see why?

While transforming the School Martin managed to have Colin St. John Wilson, Colin Rowe and Peter Eisenman appointed and he also attracted students from other departments at Cambridge who, under the double option system, studied the Mathematics degree course together with the degree in Architecture. Thus Christopher Alexander, Lionel March and Philip Steadman ended up by joining Leslie Martin's Department. Martin, together with Lionel March, who had been accepted by Cambridge to read Maths on Alan Turing's personal recommendation, founded the Centre for Land Use and Built Form Studies (LUBFS) in 1967.

Three lines of inquiry were developed at the time in LUBFS, with the aim of producing environmental and urban simulation models as well as a university study and, in 1973, this research unit was transformed into the Martin Centre for Architectural and Urban Studies with the purpose of, in nowadays, successfully to cross research boundaries with other disciplines, to develop postgraduate courses and to make an impressive amount of research contracts, mainly founded by research councils [figure 2].

This story of success had, however some drawbacks. In fact, a "hand note" was addressed to several schools of architecture in 8 November 2004 asking to send a

letter of support to the University Vice-Chancellor under the heading "The closure of the Cambridge architecture school suggests that Architecture as a University subject is under threat".

As a matter of fact this document informed that "The University's General Board has recommended the closure of the Department of Architecture. A decision will be taken on 8 December and, if there is no reprieve, the matter will go before the University for a vote. The reason for the decision is said to be academic but the root cause is the financial loss caused by the Department's slippage from a 5 grade to a 4 in the 2001 Research Assessment Exercise (RAE). The recommendation for closure was totally unexpected."

This document also stressed that "Following the RAE, the Department lost £350,000 per annum" and also that "the loss of Cambridge graduates would diminish the standing of the entire profession..

As a consequence a fantastic support was felt in Cambridge, namely from several practitioners and professors in Portugal that were extremely concerned to hear about the recommendation that the Department of Architecture should be closed. It is worthwhile to review the main issues raised in this letter dated 21 October 2004:

We in the Portuguese architecture community hold the Cambridge school in great affection and respect. Its first Professor of Architecture, Sir Leslie Martin, played a major part in supporting and inspiring younger architects during the latter days of the Salazar regime. He did this through his work in Lisbon for the Gulbenkian Foundation and through the home that he built here for himself. In the years since, a number of Portuguese architects (including two of those signing this letter) have studied for higher degrees at Cambridge, taking advantage of the broad spectrum of research areas which Sir Leslie encouraged and which have continued to develop up to the present.

This breadth of research activity (and its relation to teaching) has been a model for university architecture schools all over the world and we can hardly believe that the place where it began may close. Only last year, there was a major contribution to a conference in Coimbra by a group from Cambridge which had, under the leadership of the Department, done some outstanding and internationally widely admired work on urban design and regional development. Our contacts also suggest that research in, for example, the field of environmental design (of particular interest here) and aspects of IT continue at a high level. We understand that the Department

has recently lost a substantial amount of income as a result of an external assessment. We also understand that the conduct of the latter has been widely criticized and that, as a result, changes to the framework of the next review are being made. We ask you to provide continued support so that the Department is not penalised following this unsatisfactory review but can continue its work within a more appropriate Framework.²

The answer given by the University Pro-Vice-Chancellor, dated 3 December 2004, can be summarized in three points.

Firstly, research made in the Department of Architecture is not at the level of a "research intensive university" as Cambridge:

I wish to correct a general impression which has arisen in a number of quarters that the General Board's decision was determined solely by the outcome of the United Kingdom's 2001 Research Assessment Exercise (RAE). It is true that this result formed an important element in General Board's consideration of two further separate reviews of the Department. In view of our international reputation as a research-intensive University, it would have been impossible for this not to be the case. What the General Board has determined both from these reviews and from serious concerns expressed by the School some two years after the 2001 RAE, is that the Department's research performance has not been satisfactory for some considerable time. This is evidenced by the fact that, in all but one RAE dating back to the 1980s, the Department's research has not been judged as being of mainly international standing which is the level of performance expected by the University. The University's RAE Review Committee was fully cognisant of the very real difficulties that Cambridge's Architecture Department faced in the 2001 RAE. However, comments from the Chairs of the other Schools in the University drew attention again as recently as 2003 to underlying areas of research weakness that are not compatible with a research intensive university such as Cambridge.

Secondly, a teaching only school does not make part of the University academic strategy:

There has been no criticism of the Department's teaching role and, indeed, the University as a whole recognizes that the Department is renowned for the quality of its teaching provision. Cambridge, howev-

er, enjoys an international reputation as a research intensive university. Accordingly, the establishment of a teaching-only Department does not form part of the General Board's current academic strategy. It is also recognized that the Department's excellent teaching reputation hinges to a considerable extent on its very high level of individual teaching provision. This is very expensive and is difficult to justify at a time when the University is under considerable financial pressure, not least because our Funding Council allocation for undergraduate teaching falls far short of our expenditure in this area. In addition, the Department's performance in the last Research Assessment Exercise has resulted in a significant fall in income, which will adversely affect other arts subjects based within the same School.

Thirdly, architectural research interests will continue to flourish at the University level even if the Department is going to be closed:

If the decision is taken ultimately to close the Department, this does not imply that the University will no longer accommodate architectural research or postgraduate teaching in the subject. We all share the view that the crossing of discourses is of vital importance, and that this is as true in Architecture as it is in all other areas within the University. Aspects of architecture would continue to flourish with the increasingly fluid boundaries between subjects and the corresponding growth of interdisciplinary research activities.

In short, as such architecture is no longer an academic subject to be developed in a research intensive university but possibly elsewhere, since founding is not able to support entirely teaching provision. Furthermore, due to the "crossing of discourses" some aspects of architecture will naturally continue to be developed within the university but not necessarily in an architecture Department. As a consequence, if someone wants to get a more orientated professional degree the advisable action to take is to enrol in a more polytechnic orientated school and not in a research based university.

What Leslie Martin tried to achieve, the three inextricable strands of his architectural life—practice, education and research—were at stake.

At the moment a great number of Architectural Departments in continental Europe are under pressure to make research assessments with consequences which are not entirely acceptable within an academic environment where these strands are inextricable concurrent in order

"to establish a link between the [...] arts and the sciences."

Furthermore, the criteria for recognition of valuable research of most European universities appears as overvalued. It should be emphasized, instead, of what happens in other more descriptive and less purposeful scientific areas, particularly in the natural, physical as well as in social sciences, where there are no citation's indices in the field of architecture meaning that it is not possible, in the present state of development, to assume the reliability of this criterion alone, i.e. the relevance of the publications in the field of architecture measured by impact factors and other productive indices.

This quantification of scientific literature does not take into account a qualitative assessment, essential to a proper understanding about the disciplinary implications for the advancement of knowledge in architecture.

Indeed, a single architectural design can be of exceptional quality, regardless of the footage to be built, just as a scientific paper may also be of paramount importance, in addition to funding required for its development.

How to combine a vocational subject with the demands of a research intensive university that is the question. As Marcial Echenique (2012) replies: "The teaching of architecture requires both; the vocational teaching of design which is learnt through practice, and the academic research that advances knowledge through deduction and experimentation. It is quite remarkable that this little school—the UK's smallest—has managed to survive within Cambridge—a world leading research university. But it has always been able to combine pioneering research with practical design, which is the core of its ethos."

Coming back to Leslie Martin proposals to unite practice, education and research, Architecture in Cambridge succeeded in spite of its problems, not in the absence of them. That's surely not only a lesson to be learned but also another way of shouting again 'À bas l'Académie!'

Notes

1. Information provided by Professor Lionel March in March 1999, who attended Le Corbusier's lecture in the Department of Architecture at Cambridge University in 1957.
2. This letter was signed by Álvaro Siza (Professor of Architecture at the Oporto Faculty of Architecture, Oporto University, 1968-2003, and Pritzker Prize in Architecture, 1992); Nuno Portas (Secretary of State for Housing, Portugal, 1974-1975, and Professor of Architecture at the Oporto Faculty of Architecture, Oporto University, 1983-2004); Domingos Tavares (Professor and Head of Oporto Faculty of Architecture, Oporto University); Eduardo Marçal Grilo (Minister of Education, Portugal, 1995-1999, and Head of Education Department, Calouste Gulbenkian Foundation, Lisbon); Maria Clara Mendes (Professor and Head of Lisbon Faculty of Architecture, Technical University of Lisbon); Teresa V. Heitor (Professor and Director of the Course in Architecture at the Instituto Superior Técnico, Lisbon, 1999-2004); Manuel Correia Guedes; (Professor and Director of the Course in Architecture at the Instituto Superior

Técnico, Lisbon. Ph.D. Cantab, 1996); António Bandeirinha (Professor and Head of Department of Architecture at the University of Coimbra); Mário Krüger (Professor and Head of Departments of Town Planning at the University of Brasília, 1980-1982, and Department of Architecture at the University of Coimbra, 1998-2001. Ph.D. Cantab, 1978).

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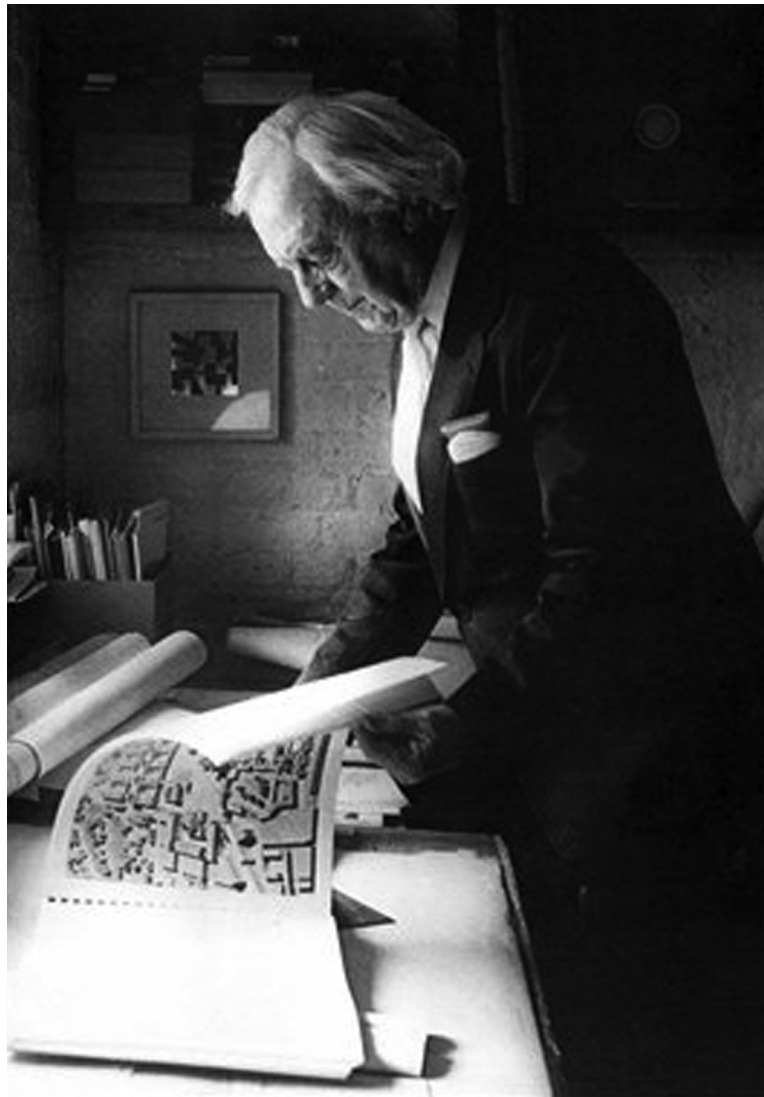


Figure 3. **Leslie Martin**, head of the Department of Architecture at Cambridge.