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Learning from “Environmental Design” Studies

Cultural landscape and the Renovation of Teaching in US Schools of Architecture between the 50s and the 70s

ABSTRACT. When studying the notion of built environment in design education, some names regularly appear: Serge Chermayeff, Christopher Alexander, Kevin Lynch and Amos Rapoport. Their texts deal with the landscape as a cultural object from a very interdisciplinary perspective. Authors today refer to these writings as “Environmental Design” literature, even though these people never worked together in a concerted manner nor in one single institution. This paper seeks to give substance to this classification of texts and to understand why this literature emerged between the 50s and the 70s. First, we briefly consider the biographies of these authors stressing that all were teachers in particular institutions. Then, through the history of the three main ones (Harvard, MIT, and Berkeley), we will see how this literature came from the translation into a scientific project of an attempt to link architecture and planning. Finally, we will present some elements explaining how this research project came to be interested in the issue of “cultural landscape”.

KEYWORDS: environmental design, cultural landscape, design research, teaching history, urban criticism, United States

Orillard Clément

This presentation will look at a continent and period other than contemporary Europe in order to nourish our reflection about the interaction between cultural landscape as an object for study and interdisciplinarity in academic curriculums. It will deal with this issue through the analysis of some historical conditions of production of what several authors call "environmental design" literature.

This literature appeared between the 50s and the end of the 70s in US schools of Architecture, Landscape Architecture, and City and Regional Planning. It both crossed these disciplines and focused on the issue of the urbanized, cultural, or man-made landscape. Very important in design curriculums during this period, it is now rejected; this rejection blurring the origin of this literature. This paper will try to track some elements of its origin.

1. Searching a common ground: some biographies from "Environmental Design" literature

Even in the US, the authors of this literature are usually perceived as isolated. They are seen as theorists with genial but strange ideas, belonging more to other disciplines than to those of design. In brief, these authors are often treated as outsiders in design history. Is it true? Let's take a look at the biographies of some of the most famous of these authors: Serge Chermayeff, Christopher Alexander, Kevin Lynch and Amos Rapoport.

1.1. Serge Chermayeff

Born in 1900 in Russia, Serge Chermayeff was first known for his work as a modern architect in England in partnership with famous names as Enrich Mendelson and then Walter Gropius during the 30s. In 1940, he emigrated to the US to begin a new academic career as Director of the Department of Design at Brooklyn College. After the death of Laszlo Moholy-Nagy in 1946, he was appointed President of its Institute of Design. In 1951, he resigned this position, taught at MIT before being appointed professor of architecture at Harvard's Graduate School of Design (GSD) in 1953.

Chermayeff was asked to develop a new course that crossed the first year program of GSD's three departments: Architecture, Landscape Architecture, and Planning. He named it "Environmental Design", an expression that he first coined at Brooklyn College, which means 'a designation of a wider spectrum of design and planning and modern technology' than solely architecture. Also, since the beginning of his teaching, Chermayeff tried to reactivate the GSD's PhD program by developing a real curriculum in "Design Research".

These key interests, design research and environmental design, led him to publish his first book *Community and Privacy* in 1963, written in collaboration with Christopher Alexander. At Yale, he pursued his research in environmental design and finally published in 1971, with his former student and teaching assistant Alexander Tzonis, *Shape of Community*.¹

1.2. Christopher Alexander

Born in 1936 in England, Christopher Alexander earned a Bachelor's degree in Architecture and a Master's degree in Mathematics at Cambridge University in 1958 before moving to the US to pursue his studies in Architecture at Harvard. He also worked at MIT's Civil Engineering Systems Laboratory on the issue of solving environmental design problems through a reshaping of the design process by feeding it with models from cognitive science and artificial intelligence research. He was the first recipient of GSD's PhD diploma and his thesis, *Notes on the Synthesis of Form*, which tried to apply mathematics to the design process, was published in 1964.

In 1963, he moved to begin a teaching position at Berkeley's College of Environmental Design (CED). There, Alexander continued to develop in-depth research on the design process but he did this by progressively critiquing his earlier attempts to describe it in a computerized language. He developed a new approach fed by cognitive anthropology and based on 'patterns' as space solutions to program problems. During two decades, he explored this approach through a *pattern language* with his colleagues at the Center for Environmental Structures that he directed.²

1.3. Kevin Lynch

Born in 1918, Kevin Lynch chose first to be trained as an architect at Yale and then at Frank Lloyd Wright's Taliesin. Finally, he left Taliesin after one year and a half to consecrate himself first to the study of Civil and Structural Engineering, and then Biology. After WWII, Lynch chose to study City and Regional Planning at MIT, obtained a bachelor degree in 1947, and worked for a local planning board.³

Just one year after his graduation, he was offered a teaching position at MIT. He was assigned at first to develop collaborative studies between the two new departments of MIT, the School of Architecture and City Planning⁴. To this end, he and his former professor and mentor, Gyorgy Kepes, organized an experimental seminar in 1951 named "Visual Form of the City". Research developed in the framework of this course, in conjunction with further experiments undertaken by Lynch during a year traveling in Europe funded by a

Fulbright grant, became the foundation of a more substantial research program that was to obtain a grant from the Rockefeller Foundation.

During four years, from 1955 to 1959, Kepes and mainly Lynch developed diverse research tracks for linking visual issues with the search for scientificity. Not only did this research program give birth to the famous *The Image of the City*, but also to other articles and numerous new topics for future research. Actually, it gave birth to a new body of knowledge. After becoming a full professor, he continued developing this research during the 60s and the beginning of the 70s with his students at MIT, some of them later becoming colleagues, such as Stephen Carr and Donald Appleyard⁵, the latter moving to Berkeley's Center of Environmental Design (CED) in 1967.

1.4. Amos Rapoport

Born in 1929 in Warsaw, Amos Rapoport studied architecture first at the University of Melbourne in Australia where he obtained a Bachelor's degree in 1954 and then at Rice University in Houston, Texas where he obtained a Master's degree in 1956 with a thesis on *An approach to urban design*. He then returned to the University of Melbourne where he earned a Post Graduate Diploma in Town and Regional Planning in 1962 with a thesis on *Some aspects on planning in France* just before being appointed at Berkeley's CED. As he has later said, it was there that some of his main research interests were born.⁶

His first book, *House Form and Culture* proposed, in 1969, to rebuild architectural theory about the house around an anthropological approach. This approach focused on the issue of culture in the tradition of US cultural anthropology. In his following books, he tried to give this proposal reality by progressively organizing an anthropological theory of environmental design. He gave a synthesis of writings by his own and many other researchers in 1977 with *Human Aspects of Urban Form*, while he developed a more historical look at the question in 1990 with *History and Precedents in Environmental Design*.

His unconventional anthropological approach and attacks against traditional architectural education made him an itinerant figure for a while, teaching in different academic institutions including the University College of London before being appointed at the University of Wisconsin – Milwaukee as professor of Architecture and Anthropology in the Department of Architecture and he took on a core role in the birth and development of the Environmental Design Research Association.⁷

2. Transformations of teaching in the design professions: the development of design research

Through the biographies of these authors we can see that this environmental design literature is born from a progressive development of design research and that this development has a token place in some important academic institutions such as Harvard, MIT and of course Berkeley's CED. What was the context of the evolution of this design research?

2.1. From design professions to the discipline of design, Hudnut's project at Harvard

Harvard's GSD of the 30s is usually seen as the new Bauhaus in America thanks to the directorship of Walter Gropius at the Department of Architecture. But a more recent historiography, by insisting moreover on the importance of the project of Joseph Hudnut, its dean from 1936 to the appointment of Dean Sert in 1953, grounds definitely the GSD in the US context.⁸

When he founded the GSD, Joseph Hudnut followed two objectives. The first one is now very well-known: by grasping the three independent departments in Architecture, Landscape Architecture and Planning of Harvard University, he wanted to encompass the teaching of the different design professions in a global curriculum. In particular, what he seemed to see as vital for the future of architecture was to maintain a strong link between this discipline and urban planning.⁹

This objective is also illustrated by his other main project, the foundation of a new professional organization, the American Society of Architects and Planners (ASPA) in 1943. He founded it to welcome collaborative efforts between the design professions. This organization competed mainly with the traditional American Institute of Architects (AIA) and its board that traditionally supported Beaux Arts curriculums. It also was thought of as a possible US East Coast chapter of the CIAM.¹⁰

But Hudnut followed another objective when he founded the GSD, the development of research in the design professions. This objective emerged when he was Dean of Columbia University's School of Architecture between 1933 and 1935. He envisioned establishing an 'Institute of Urbanism' there, where researchers from a range of discipline would explore the built environment of New York City¹¹. At Harvard, this vision took on different directions.

First, Hudnut, to strength a common culture between the design professions, founded a new undergraduate body of courses in 1938-39. This new Department of Architectural Sciences taught fundamentals to the potential future students of the GSD that were far from traditional professional training. Second, a totally new program of PhD in Architecture, Landscape Architecture and Planning was founded in 1944, the first in the US.

The historiography of its foundation remains obscure but is a key date in the development of research in the design professions.¹²

The work of Serge Chermayeff at Harvard but also the beginning of Christopher Alexander's research followed these innovations after Hudnut's resignation by trying to give them a strong academic content.¹³

2.2. From Harvard to MIT and Berkeley: William Wurster and the translation of Hudnut's project

One person participated, briefly as a student and then as a colleague, to the transformation initiated by Joseph Hudnut at Harvard: William W. Wurster. Wurster was already a prominent figure of West Coast architecture when he came in the East Coast in 1943 first in order to broaden his perspective on planning and accordingly his own world. He sought, in fact, to "get an insight into the world" of his new wife, the famous planning writer, Catherine Bauer. Thanks to a fellowship for Harvard University, he began doctoral studies in urban planning while because of his professional accomplishments, he was invited, at the same time, to lecture at Yale.¹⁴

In 1944, the Vice-President of MIT invited him to become Dean of the School of Architecture. At MIT, he began to follow the transformation of the neighboring institution of the GSD by changing the curriculum through the appointment of new professors that came from the GSD or from Moholy-Nagy's New Bauhaus of Chicago, people such as the new head of the Department of Visual Studies Gyogy Kepes. During his first years, he strengthened planning teaching by splitting the School in two Departments, one of Architecture and the other of City Planning. He appointed also Frederick J. Adams, son of Thomas Adams and board member of the American Institute of Planners, Chairman of the Department of City Planning. Finally the appointment of Kevin Lynch in 1948 with his so particular mission is probably the consequence of this split and prepared the development for future original research.¹⁵

In 1949, Wurster resigned from the MIT in order to return to the West Coast and accept the post of Dean at Berkeley's College of Architecture. From the first year of his deanship, with his wife Catherine Bauer appointed lecturer at Berkeley's Department of City and Regional Planning, he began informal discussions to merge the College of Architecture and the two Departments of Landscape Architecture and of City and Regional Planning into one structure as Hudnut had done at Harvard more than a decade ago. This long process of informal and then formal discussions opened to the foundation, in 1959, of the new College of Environmental Design.

He was helped in this process by the Chairman of the Department of City and Regional Planning, T. J. Kent, a long-time friend. It is interesting that the name of the new college was apparently proposed by T. J. Kent, a term often used by the pre-WWII Telesis group in which William Wurster also participated. Telesis was an informal organization formed in 1939 in San Francisco by architects, landscape architects and city planners. Its main aim was to develop proposals for the different New Deal's Federal agencies on the West Coast. But its members also saw it as a group that could participate in the CIAM congresses as its US West Coast branch and it welcomed traveling figures as Serge Chermayeff when he briefly stayed in San Francisco in 1940.¹⁶

Apart from William Wurster, one of the leading figures of this informal group was the well-known landscape architect Garrett Eckbo. Thanks to his study at Harvard and his work for the Farm Security Agency, he definitely broke with Beaux Arts landscape gardening, promoting instead a modern landscape architecture strongly linked with planning¹⁷. A great number of the faculty members of the College of Environmental Design were part of this group. Thus Telesis, where the notion of landscape had a much broader sense than gardening, can be seen as one of the main places where both the philosophical basis for the College and personal contacts and networks were built.¹⁸

2.3. The scientism of design at Harvard, MIT and Berkeley: Martin Meyerson's action

A last name must be mentioned in relation to the development of Environmental Design as a research field. He had a totally different curriculum than Wurster's but was also involved in the different academic institutions already discussed in this essay. Meyerson was a planner and not an architect. He graduated from Harvard but taught first at the Department of Social Sciences at the University of Chicago from 1948 to 1952. In 1957, he returned to Harvard as the first Frank Backus Williams Professor of City Planning and Urban Research while the Ford Foundation, in order to increase research into urban issues, proposed to Harvard and MIT a large grant with one peculiar condition: the two academic institutions had to merge their research teams on this subject into one sole institution.

The Joint Center for Urban Studies (JCUS) was born and Martin Meyerson acted as its first Director with MIT's Lloyd Rodwin as its first vice-director. The JCUS had a very broad mission in urban studies and funded a very different type of research and in particular design research about urban issues. But, by encompassing all the researches from sociology or economy, to design, it helped to make design research more scientifically grounded. It was thanks the JCUS that Chermayeff and Alexander were able to published *Community and Privacy* and the JCUS funded all the different research projects of Kevin Lynch and his collaborators after the end of the Rockefeller Foundation grant.

In 1963, Martin Meyerson briefly assumed the deanship of the GSD before being recruited by Berkeley for the post of Dean of the College of Environmental Design that Wurster left the same year. Around the moment of his new appointment, numerous new institutions were founded in the College to welcome research. Charles Moore, the new chairman of the Department of Architecture also stressed the issue of design research in the

architecture curriculum. The same year, Christopher Alexander came to found the Center for Environmental Structure and Amos Rapoport began to work in the Department of Planning. Donald Appleyard, Kevin Lynch's main collaborator, followed in 1967 and worked in the Environmental Simulation Laboratory.

3. The issue of environment in design research: the cultural landscape

So we can see how design research in professional design schools is born from the demand for interdisciplinary and scientification of their discipline. But how did the issue of environment finally take a central place in this research and open for the production of an "environmental design" literature?

3.1. Urban criticism and the building for a public demand about environmental quality

In 1958, Kevin Lynch participated in a conference on "Urban Design Criticism" which took place at Rye, New York, jointly organized by the University of Pennsylvania and the Rockefeller Foundation. A majority of the participants were famous writers on urban and planning issues: Lewis Mumford, Catherine Bauer, Jane Jacobs, John Brinkerhoff Jackson. All were very famous but, surprisingly, they hadn't any formal training and or held teaching positions in these domains. They were mainly activists and columnists, even if certain important figures wrote major texts on the subject as Mumford, and participated to the constitution of an urban criticism sphere.

By the 50s the activity of this urban criticism sphere was fuelled by two topics that created much concern at the time. On the one hand there was the phenomenon of "urban sprawl", the post-WWII explosion of suburbs in terms of population and surface that seemed to attack the structure of rural areas, to disperse the cities in monstrous conurbations without any comprehensive form. On the other hand there were the "urban renewal" programs, post-WWII policies for rebuilding the city cores in order to erase slums and make them more accessible for cars, and that were carried out by engineers and planners trained in a more techno-scientific manner.

Both were unwilling consequences of the combination of New Deal policies and the war effort and both broke dramatically with the traditional spatial order, in particular with the traditional categories of beauty. And the issue of the ugliness of the contemporary urban and suburban developments became more and more important as the public was more and more astonished by the transformation of their built environment. Already sensitive to this issue in the pre-war period, the urban criticism thinking reached a greater audience in the post-war period by attacking the destruction of both urban and rural traditional structures and their visual qualities while appealing for a development which respects these structures. If this debate not so far from that one of the 30s about regional planning, they concerns were now reaffirmed by a real public demand for environmental visual quality.¹⁹

3.2. Cultural landscape as a bridge between criticism and research

This demand was translated during this period by some institutions, in particular private foundations created a demand for research in this subject. The Rockefeller Foundation, for instance, financed different research projects on urban aesthetics such as Lynch's "Form of the City". Thanks to their evolution from a Beaux Arts curriculum to a more rationalized and scientific one, some Schools of Architecture such as Harvard, MIT and Berkeley, were ready to welcome this research on visual and other quality in the built environment. The foundations also co-organized the conference on "Urban Design Criticism" to bring closer critics and researchers, and funded the rebuilding of courses in schools of architecture or of an entire department like the Department of Landscape Architecture at the University of Pennsylvania chaired by Ian McHarg.

One of the other main places where criticism and research into this topic coincided in the 50s was a peculiar review: *Landscape*. It was founded by John Brinkerhoff Jackson in order to publish essays from different perspectives about "landscape". But as he welcomed texts without any distinction between disciplines, a growing number of young researchers investigating the question of environmental quality began to publish their first articles in his review, stressing indisciplinarity and the issue of landscape. All the several authors he named in the first part of this paper published one of their first articles in *Landscape*.²⁰

This platform for discussion about the landscape welcomed also a research already established but now marginalized in its discipline: the cultural geography school of Berkeley. In 1956, Carl Sauer warmly welcomed Jackson at Berkeley while his national leading position in the discipline was fading. During the following decades, Sauer, who developed the notion of cultural landscape in his writings, and some of his collaborators became regular contributors to *Landscape*. The anthropological grounding of cultural geography, inherited from Franz Boas, became a major axis of the review.²¹

This relationship finally led to Jackson's entering into the academic sphere: in 1966, Carl Sauer invited Jackson to teach a term each year in Berkeley. The year after, Jackson was appointed in a joint position associating the Departments of Geography and Landscape Architecture in Berkeley while in 1969, he was appointed for another term of each year at another joint position associating Harvard's Departments of Visual Environment Studies, the last version of Hudnut's Department of Architectural Sciences, and Landscape Architecture.

¹ See Alan Powers, *Serge Chermayeff. Designer Architect Teacher*, London, RIBA Publication, 2001, pp. 148-217.

² For a discussion of the work of Christopher Alexander, see Stephen Grabow, *Christopher Alexander: the Search for a New Paradigm in Architecture*, Stocksfield – Boston, Oriel Press, 1983.

³ For a “biographical sketch”, see Tridib Banerjee & Michael Southworth, “Kevin Lynch. His Life and Work” in Donald A. Krueckeberg (ed.), *The American Planner. Biographies & Recollections*, New Brunswick (NJ), Center for Policy Research – Rutgers University, 2nd ed., 1994, pp. 439-468.

⁴ Caroline Shillaber, *Massachusetts Institute of Technology School of Architecture and Planning 1861-1961 : A Chronicle*, Cambridge (Mass.), The Massachusetts Institute of Technology, 1963, p. 96.

⁵ About the life and work of Donald Appleyard, see Kevin Lynch and others, “A Tribute to Donald Appleyard”, *Places*, vol. 1 no. 1, July 1983, pp. 3-17.

⁶ Amos Rapoport, *Human Aspects of Urban Form: Towards a Man-Environment Approach to Urban Form and Design*, Oxford, Pergamon Press, 1977, p.4.

⁷ For a discussion of Rapoport’s writings and ideas, see Keith Diaz Moore (ed.), *Culture – Meaning – Architecture: Critical Reflections on the Work of Amos Rapoport*, Aldershot, Ashgate, 2000.

⁸ In particular Anthony Alofsin, *The Struggle for Modernism: Architecture, Landscape Architecture and City Planning at Harvard*, New York, W. W. Norton & Company, 2002 and Jill Pearlman, *Inventing American Modernism: Joseph Hudnut, Walter Gropius, and the Bauhaus Legacy at Harvard*, Charlottesville, University of Virginia Press, 2007.

⁹ Anthony Alofsin, op. cit., pp. 119-130.

¹⁰ See Andrew M. Shanken, “Between Brotherhood and Bureaucracy: Joseph Hudnut, Louis I. Kahn and the American Society of Planners and Architects”, *Planning Perspectives* n°20, April 2005, pp. 147-175.

¹¹ Jill Pearlman, “Joseph Hudnut and the Unlikely Beginnings of Post-Modern Urbanism at the Harvard Bauhaus”, *Planning Perspectives* n°15, 2000, p. 206.

¹² Anthony Alofsin, op. cit., pp. 141-142 and 179-180.

¹³ To discuss the evolution of research at Harvard through a study of the present Doctor of Design program, see Clément Orillard, “Le *Doctor of Design* d’Harvard comme prototype. Comment penser un doctorat pour les professionnels de l’architecture ?”, *Lieux Communs* n°10, forthcoming.

¹⁴ For a biography of William W. Wurster see Richard C. Peters and Caitlin King Lempress, « An Architectural Life » in Marc Treib (dir.), *An Everyday Modernism: The Houses of William Wurster*, Berkeley, University of California Press, 1995, pp. 85-95.

¹⁵ Caroline Shillaber, op. cit., pp. 88-90.

¹⁶ About the foundation of the College of Environmental Design, see Sally Woodbridge, “Reflections on the Founding: Wurster Hall and the College of Environmental Design”, *Places* vol. 1 no. 4, April 1984, pp. 47-58.

¹⁷ About Eckbo and Telesis, see Marc Treib & Dorothée Imbert, *Garrett Eckbo: Modern Landscapes for Living*, Berkeley, University of California Press, 1997.

¹⁸ Telesis was still a reference when Hudnut founded the ASPA: William Wurster participated to it and ‘Telesis East’ was first proposed as name for this new institution. Andrew M. Shanken, op. cit., p. 150.

¹⁹ About the anti-sprawl campaign see Robert Bruegmann, *Sprawl: A Compact History*, Chicago, University of Chicago Press, 2005, pp. 121-136. For some elements about the anti-renewal campaign see Robert Fishman, “The Revolt of the Urbs: Robert Moses and its Critics” in Hillary Ballon and Kenneth T. Jackson, *Robert Moses and the Modern City: The Transformation of New York*, New York, W. W. Norton and Company, 2007, pp. 122-129.

²⁰ About the journal *Landscape*, see Helen Lefkowitz Horowitz, “J. B. Jackson and the Discovery of American the Landscape” in John Brinckerhoff Jackson, *Landscape at Sight: Looking at America*, New Haven (Conn.), Yale University Press, 1997, pp. xx-xxviii.

²¹ About Carl Sauer and Berkeley’s school of geography, see David N. Livingstone, *The Geographical Tradition: Episodes in a Contested Enterprise*, Oxford, Blackwell, 1993, pp. 294-303.