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debatt

AN OUTLINE FOR DEFINING THE RESEARCH OF ARCHITECTURE

Tampere University of Technology Department of Architecture has for a long time been active in research in different aspects of architecture. But we have also wanted to initiate discussion about what all the different aspects of architectural research entails. What does an architect need research information for? What should be emphasised in teaching architects how to do research? In what direction should architectural research be aimed at in the future? This paper is intended to start a discussion.

1.

The research of architecture can at its best (1) help architects to *understand* the different aspects and influences of the built environment. This includes; technical, physical, economical, functional, ecological, psychological, socio-cultural, spiritual and aesthetic effects.

This understanding is furthered by seeing the issues in their historical development and, on the other hand, in the light of present problems, challenges and possibilities.

Also, the research of architecture (2) gives the *intellectual tools* with which architects can make better environments – technically and ecologically better, better from a functional point of view, ecologically more sustainable, and psychologically and culturally richer. This is the case whether the question is about houses, public buildings, institutions, work environments, housing areas or cities.

In applying such knowledge, also the local conditions such as the landscape, climate, cultural tradition, economical resources, as well as the lifestyle of people and the demands of different age groups, must be taken into account.

2.

The basic nature of architectural research is as an applied science, situated between the basic sciences and technology. These three levels can, according to Finnish Professor of Philosophy Ilkka Niiniluoto, be defined as follows:

The *basic sciences* bring, through scientific methods, new knowledge about what the world – nature, man, culture, society – “really is”. Such an activity increases the amount of truthful information and information about different phenomena. It is with this material that a scientific view of the world is built, explaining and understanding different phenomena.

Technology is the design and production of new products and equipment. Its use can be measured from the point of view of practical usefulness, efficiency and appropriateness – but not so much from the point of view of truthfulness or informativity.

Applied sciences should in turn be evaluated from two points of view: on the one hand, according to its truthfulness and informativeness and, on the other hand, according to how new information increases some intended use, such as house building or environmental planning. Within this field, knowledge *must* also be easy enough for us to handle, so that it can have practical applications – and in this sense one can, according to Niiniluoto, also talk about “design science”.

To put it simply, applied sciences (or design sciences) create, according to Niiniluoto, “instrumental knowledge”, of which a rough basic type is “If you want A and you are in situation B you must do X.” Such a claim is true or false depending on whether doing X in situation B really is a necessary condition for attaining A.

Also, the emphasis of architectural research can be found in this direction. Its task is not so much to tell us what the world is like but “what the world should be like, such that certain goals can be realised.” Making the architect’s work scientific does not mean changing his work to that of a researcher, it’s rather a matter of “developing a scientific system of knowledge that increases the efficiency of his work.” (Niiniluoto)

Of course it is often necessary to make a stand-point about the goals in the field of the applied sciences. Thoughts can be pondered upon, for instance, from an ethical as well as a philosophy of science point of view. The awareness of a positivistic, hermeneutic and pragmatic paradigm, and many similar facts, also belong to the facts that are followed in architectural research. But its main emphasis is on the level of applied science.

3.

Kaisa Broner-Bauer, Professor of Architecture History at Oulu University Department of Architecture, in northern Finland, has put forward the view (*Finnish Architectural Review*, 2/1987) that the architect needs scientific research in two senses: in order to master different planning situations and in order to study architecture itself.

It's usual, (1) from the planning situation, that, for instance, urban design is based on research data from the target area, from its development directions and particular circumstances. Similarly, the protection of the built environment requires researched facts about what is protected, how, and on what basis. The conservation of buildings, and the repair of buildings, require art historical research, and natural scientific knowledge about the materials and equivalent research data. Building technology development also requires its own research.

Indeed, from an international point of view, most research has been gathered in architectural schools from the following academic fields: urban design, the history of architecture and construction. But also scientific knowledge is used ever increasingly, for instance, in housing design, states Broner-Bauer. Also, clarifying ecological facts has increased.

But also (2) architecture itself can be taken as an object of study. Research objects are, for instance, user-needs, the ecological balance of the environment or the aesthetical and spiritual values of the environment. Even though such research is young, and often difficult, it is also necessary, states Broner-Bauer.

For instance, the Finnish architect Reima Pietilä said in 1973 that

architecture is not endowed with factual tools so that it could cope with the tasks that have been heaped upon it. Straight forward technological cultural (...) proceedings do not favor utilising the true possibilities of architecture. (...) The error has especially been that there has been no patience to think about and develop the *factual heritage of architecture as a whole*. (...) Architecture can no longer remain – retain its meaning – based only on collected information. The research of the *factual grounds* must also be taken into account.

(quoted from Broner-Bauer 1987).

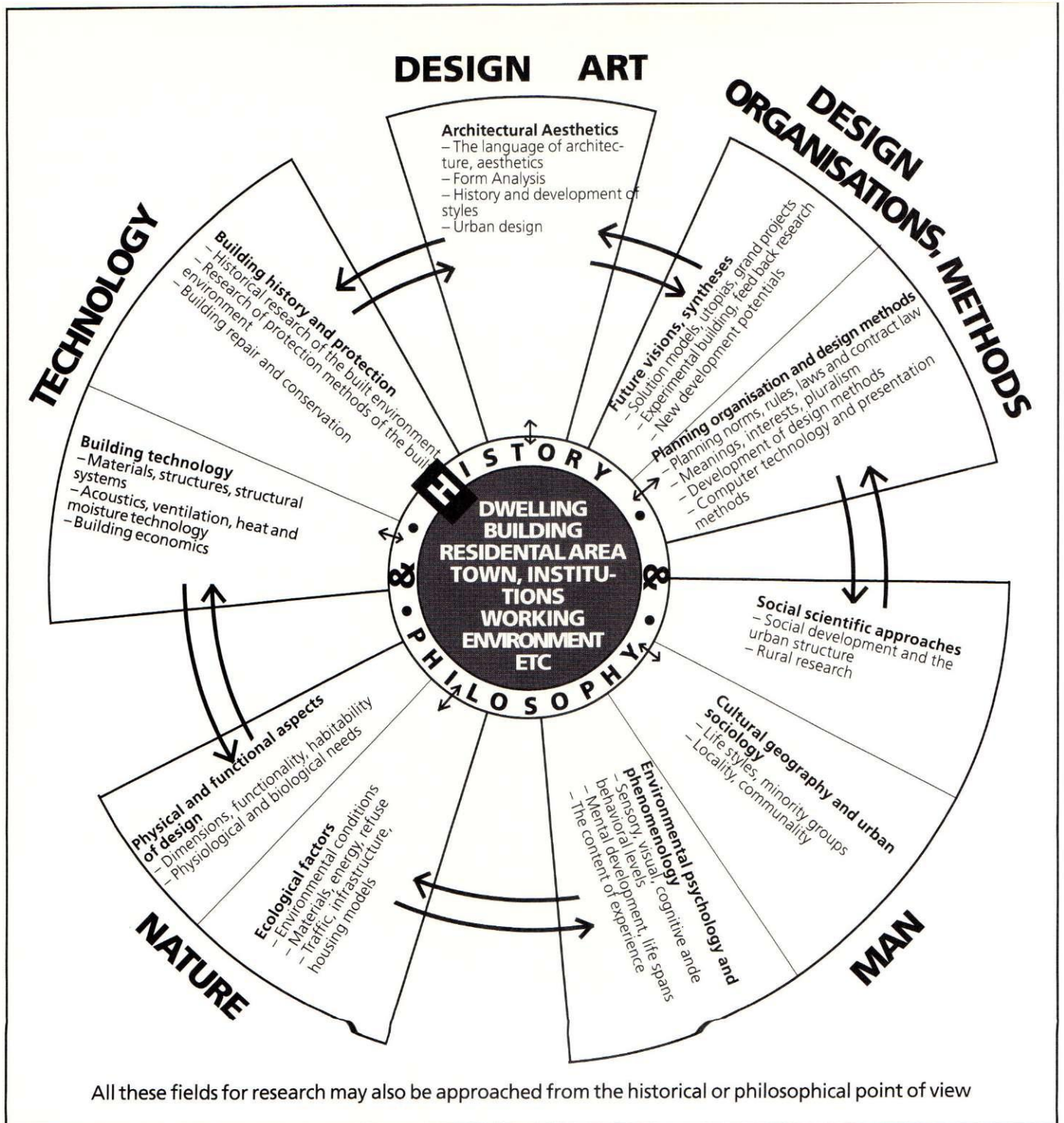
However, such architectural research has come about more recently. In this regard Broner-Bauer mentions the work of Christian Norberg-Schultz, which is helping to create a new type of architectural outlook.

Likewise, the research which has clarified the cognitive analysis of the field of environmental psychology and mental experience has brought new angles into the field of architecture.

In a similar way, cultural-geographic and urban sociological research, where differences have been shown between the lifestyles of different groups of people and the socio-cultural influences of urban development, have widened the planning goals and made them more multifaceted.

Furthermore, Reima Pietilä's own research concerning the formal language of architecture can be mentioned, in which he attempts to create a form language of architecture particular to the arctic area.

One of the future challenges of architecture is the transference from physical-aesthetical knowledge (know how) to specifying the content-side, the psychological-mental side, of architectural research.



AN OUTLINE OF THE MAIN AREAS FOR ARCHITECTURAL RESEARCH

4.

In order that the architectural research which has already been done can be placed into the proper field of research, and that the future centre of gravity can be better evaluated, the basis for research should be a list of themes that covers the whole field sufficiently. In order to start a discussion the following outline proposal has been made (see appendix) – we await your additions and comments.

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