Teaching environmental issues in an architectural design studio. Description and students’ response.

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Abstract: - The aim of teaching landscape and environmental issues to architecture students is to develop their sensitivity towards the environment of their building. But beyond that, it is a step leading to the understanding of the meaning of sustainable architecture. The paper presents a course taught at the ENSA (School of architecture) of Normandie. Students’ comments on the course can give directions as to how to develop is further.

Key-Words: - Architecture school; Teaching landscape environment; Sustainable architecture

1 Introduction
Architectural students’ lack of attention towards the environment in which they design their buildings is a long standing problem and a recurrent issue in debates on teaching architecture. The problem was lengthily described and analyzed in two recent books. Comparing experiments in teaching landscape architecture in architecture schools in several European countries as well as from China, Teaching Landscape with Architecture shows the importance of differences in relations to the world in different cultures and their influence on the perception and teaching of landscape architecture [2]. The Reactions to a position Paper of Franco Zagari surveys the question of the evolving role of landscape architects in the European Union and of the implication in teaching [4]. The aim of this article is to continue the discussion opened by the authors of these two books in the light of a recent teaching experiment.

2 Environmental Issues: Architecture and the Natural Environment
2.1 Description of the course
For the last five years, the Ecole Nationale Supérieure d’Architecture de Normandie has been offering to the third-year students a design studio entitled: “Problématiques environnementales: architecture et milieu naturels” [Environmental Issues: Architecture and the Natural Environment]. The aim of the studio is to introduce students to environmental thinking
through a design approach. “Environmental thinking” is meant here in a wider sense, as both a technical and a poetical process.

In the course of their studies, this is the first occasion for students to be confronted with territorial scale and with environmental issues. The subject is followed up during the fourth and fifth year by a studio on sustainable architecture and another on an urban project with a territorial scale.

The studio course is divided into three phases. In the first phase (3 weeks), no brief is given as to the final project, in order for students not to jump into the usual exercise – the design of a building. Students have to immerse themselves in the site, then analyze their impression, perception, experience with various graphical means according to a series of themes in groups of 2 or 3. The themes are given to them at the end of their first visit. They included noting the natural materials on site, the natural and man-made elements or processes, the relationship between sky, land and water, the topography, the climate, the uses, as well as the perception of scales and rhythms, banal and remarkable elements, fragile and permanent elements, and the wider planning context (Grand Paris). Students were encouraged not to treat these themes as a research of facts, but as a way to concentrate their attention on some specific aspects of their perception of the site.

During the second phase (4 weeks), they are given the brief for the buildings. In groups of 2, they have to chose one environmental theme (water, energy, air, soil), and develop a strategy for siting the buildings, which is a response to their previous experiential analysis and the environmental theme they chose.

During the last and longest phase (7 weeks), the students (in the same groups as in phase 2) have to design the buildings according to the program given in the brief. The exercise takes them to a scale that is more familiar for them, but they are expected to integrate their preceding experience and analysis of the site into their design; to think about and express in their building the relationship between architecture and “nature”.

Because of the number of students, they were divided into four parallel studio classes, each co-taught by an architect and a landscape architect. The goal was to introduce students to landscape architectural thinking as well as to a collaborative architect-landscape architect approach. During part of the semester, students also had an art studio, where they had to work on the same site. In the last phase of the course, a construction-technique teacher joined the pedagogical team.

At the same time, students had a theory course, taught by one of the architects teaching the design studio (Y. Nussaume). The aim of this course was twofold. On the one hand, it aimed at making them feel the importance of architects’ cultural background and its influence on the design process, by analyzing non-European (especially Chinese and Japanese) architecture and urban design. On the other hand, it introduced them to a variety of landscape issues; in particular, they were given texts by two French landscape architects, Bernard Lassus [3] and Michel Corajoud [1], describing their own approach to design.

2.2 The site
The site (approximately 110 hectares), is located in a bend of the Seine River, between Rouen and Paris. It shares a specific history with many similar sites of the alluvial valley of the Seine in the West of Paris. An alluvial deposit of sand and gravel, it was used from the end of the 19th century for spreading the sludge of the city of Paris. This permitted the development of an agriculture of vegetable and fruit production for the nearby city. After World War II, this activity declined (and was forbidden by law in 1999, because of the level of pollution in the soil), and replaced by sand and gravel extraction, much needed by the rapid post-war growth of the Paris area.

The mining activity lasted until the last decades of the 20th century, and when it finally stopped and the mine was closed. Except for two holes left as lakes and filled up with ground water, the land was leveled, covered with a minimal layer of topsoil and left alone. A flora typical of such disturbed areas began to develop, beginning with herbaceaous growth replaced in some areas by a first growth of still very young woods, and a better developed riparian vegetation along the edges of the two lakes. The old
towpath along the Seine river, built on a dike, had been kept during the mining period, and was planted with an old row of Lombardy poplar and in one part of majestic plane trees. Next to the site there is a main thoroughfare at one end, a marina at the other, and various housing development (including social housing) along its length. On one of the lakes, there is a small and closed community of little leisure floating houses, and there is also a small stretch of family gardens in another part of the site. Occasional fishermen and birdwatchers also use the site (one of the lakes). The neighbours seem to have little relation to the site. A few come running or walking their dogs along the river. The inhabitants of the social housing compound only use a small area in front of their neighbourhood for family picnics.

There exists an ambitious local development plan for the whole area, which includes building new “ecological” neighbourhoods. According to this plan, this unbuilt area is to play an important role as a natural zone, as part of a biological corridor along the river, and as natural (pedagogical) leisure park creating a link between the existing and the new neighbourhoods and the river. The program given to the students stems from this existing plan: considering the site as a future “natural park”, they had to design a small museum on ecology (“Maison de l'espace naturel”), a “restaurant-guinguette”, and two observation points.

2.3 Remarks on the final projects

Even though each team of teachers had different bias and insisted on different aspects of the design process, the problems encountered by the students were similar, and the final projects showed a homogeneously wide spectrum for each class.

The different experiences the students had on the site during the first phase of the studio were the base of their arguments in the strategic choices for the location of their buildings in the second phase. However, they had difficulties in integrating the different spatial scales explored during the first two phases into their final project.

Nor did they deal with the “natural” evolution of the site. Despite the teachers’ insistence during the first phase on the “unnaturalness” of the site and on its evolution towards a wooded environment if left on its own, most students seemed to have kept their first impression of the site as “natural site”, to be left “as it is”, untouched. This was clear in the way they described the “insertion in the site” of their buildings: the locations of building were chosen according to their perception of ambiances in the present state of the site, as if this was to remain so.

One of the questions of the exam for the theory course asked the students to critically examine their own design process in this studio. The exercise forced students to become conscious of their own experience. The conscious process of putting it into words reinforced the unconscious learning process they went through. Indeed, the essays showed that students were well aware of the difficulties they had encountered, and that they were able to express it often very clearly. In the remaining part of the paper, we will summarize some of the issues touched upon.

3 Students’ comments

3.1 Scales of site analysis

The successive phases of the project during the semester were appreciated. One student remarked that, had he known the building program at the
beginning of the semester, he would probably not have given much attention to the larger-scale site analysis – this was indeed the reason why the semester was organized the way it was. Site analysis was considered by most as a mind-opening experience, but they generally regretted that it didn’t last longer, that the study of the large-scale had to remain superficial through lack of time. Another difficulty was that the site was too distant for students to access it easily.

The difficulty in dealing with the large scale brought a lack of understanding of the relationship of the site to its larger geographical environment, but also of the interaction of the natural site and its urbanized neighbourhoods, and thus of the real function of the site for the inhabitants.

Indeed, several students noted their difficulties in thinking in multiple scales simultaneously, and in keeping an awareness of the large scale when designing the building. The larger scale is interpreted, understood as the scale of nature, comments another student. The too superficial analysis of the large scale, the lack of integration of the different scales, contributes to a dissociation between “nature” and built project (architecture), where “nature” only becomes a view framed by the project and falls short of becoming one of the threads of the design process. The desired “integration into the site” become a question of placing the windows, to direct the visitor’s gaze from inside the building towards a specific aspect of “nature” outside. Another students also comment on the separation of nature (biodiversity, to be maintained) and man (architecture) that should not play any role. He regretted not having taken into account man’s uses of nature. The use of local material would have been one way to do it, and several students regretted not having explored this issue.

One student very sensitively remarked on the limits: they vary according to the scale considered, they are not only visual, but can be invisible and involve the other senses; and they can be perceived differently by those who know and use the site. He also regretted having forgotten richness coming from the superposition of these varied limits at different scales, when moving on the project.

### 3.2 Themes

One criticism was expressed by many students. They regretted the imposed themes in the first phase of the analysis. At first, everybody was touched (“interpelé”) by the same characteristics in the site; notes one student, and the use of different theme by each group may have allowed for a wider variety in the analyses during the first phase. But many felt it constrained their relationship to the site and restrained their imagination. One student wrote she felt her theme had “blocked her mind”. Another felt that concentrating on her theme made her blind to anything else, didn’t allow her to be open to all that the site had to offer. For yet another, the theme didn’t allow the development of a real dialogue with the site. Concentrating on one theme may had led us to notice important characteristics of the site in relation to that theme, but it didn’t let us see the site as a whole, writes another.

Feeling that they needed more information on the site, one group went back – and their second visit was a “revelation”, an unexpected and surprisingly strong experience that they kept evoking together for the rest of the semester. The fresh meeting with the site, with a more open mind, determined the design choices they made during the rest of the semester.

In their criticism, many students refer to the texts of Lassus and Corajoud - they used the expressions “sponge” and “floating attention” proposed by Lassus and refer to the multiple analyses of Corajoud. Reading these texts later during the semester, after having had their own experience on site, reflecting on them thanks to the opportunity given by the exam, will probably help them, in future practice, to consciously develop a specific receptive attitude for their first encounter with a site, a crucial moment in any design process.

### 3.3 Perception

The issue of the perception of the site led many students to question the relationship between the “subjective” and the “objective” aspect of a first approach and analysis of a site. What does perception really entail? Is it just an individual, bodily process? To what extent is it shaped by one’s cultural background? How could one be open to others’ (subjective) perception of the site, especially inhabitants? What other “objective” information should be sought? (geology, local history, local know-how?) Not necessarily being aware of it, students have here confronted one of the fundamental questions of any design thinking process.

### 3.4 Groups

Most students seemed to have appreciated working in group. (overall, only very few groups turned out to be dysfunctional). It allowed them to confront and enrich their ideas, to be “thrown out”, in however small degree, of their own way of feeling and thinking, and to understand different ways of seeing. While several remarked on the lack of cultural decentering in their design process – one of the main theme emphasis of the theory class – the necessity of
seeing and understanding the site with at least one other person’s eyes felt to be a good practice that can help them grasp the more difficult and complex encounters with different cultures.

3.5 Meeting the neighbours
Many students regretted not having involved the inhabitants, the users of the site. We design not for ourselves, but for the inhabitants, commented one student. For another, involving the inhabitants meant understanding the site not as an “object of analysis”, but as a “space for interaction”. This phrasing clearly shows that this is not simply an “effet de mode”. In their desire to integrate the users into the design process, students question the traditional role of the architect as an independent designer of object and are interested in exploring other ways to offer a social contribution.

3.6 Time
The limit of a studio course – on short school semester – makes it difficult to grasp the evolution of a site in a longer timeframe. Although students went back several times between September and November – thus seeing the change over the autumn – and some even stayed (camped) overnight to experience the different periods of the day, they were not able to integrate into their thinking the long-term evolution of the site. The students had even more difficulties integrating different time-scales than spatial scales.

The issue of not having enough time comes back often in the students’ comments. They regretted not having enough time to deepen the study of the site, to understand the methodologies of site analysis; to talk to the inhabitants, to involve them in the project; to live the site and to see it change; to understand it with those who actually use it.

4 Conclusion
The growing importance of sustainable design, the changing role of landscape architecture, is reflected, sometimes indirectly, in the way landscape architectural and environmental issues are taught. The course described here already offers a rather engaged way of dealing with these issues in an architecture school. Students’ comments on the course are an invitation to go even further. While they recognize their lack of knowledge and lack of tools to treat such matters, they sense what some of those tools might be and where they lay.

Designing with a real (environmental, social, economic) understanding of a site, understanding the many superposed and interacting layers that together create a site, designing for the inhabitants, requires a much longer timeframe, a completely different management of time than what a one-semester-long studio course allows – or even what general architectural practice allows. Indeed, this can be considered as one of the main problems of contemporary architectural and landscape architectural teaching and practice. The end result of the “lack of time” can be described as putting down an object (a box) onto a site. Such a design process foregoes the processes implied by truly sustainable design.

Wouldn’t school be the occasion to explore other ways of being an architect? As we have seen, the students have expressed this desire. Within the necessarily limited time-frame of architectural training, wouldn’t it be possible to imagine a one or two-year long design studio, where students can learn to know the site throughout all seasons, and where they could act not as much as designers of objects, but as designers of process, as mediators?

References: