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Valuation of architectural heritage by multicultural student groups

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ABSTRACT: In this article, the author addresses the education of architecture students in the field of architectural history and the determination of the value of architectural objects. Important changes at present are underway concerning this. Both the role of architectural history in architectural education and content in architectural history curricula is changing. The need for re-evaluation and reconstruction of the role of architectural history in education arises from several reasons. Educational needs are also changing because of globalisation. The field of monument protection is widening, the number of objects that are subject to protection increases rapidly. Ecological needs require greater care for the existing building substance. At the end of the article, the solutions implemented at Gdańsk University of Technology, Gdańsk, Poland, are presented: these are aimed at solving the problem of teaching students how to evaluate architectural heritage.

Keywords: Architectural education, architectural heritage, multicultural education, teaching effectiveness

INTRODUCTION

Changes in the Role of Architecture History in Architectural Education

In the 19th and early 20th Centuries, teaching architecture students was based on a transfer of knowledge about architectural forms and styles. Both lectures and exercises on the history of architecture filled most students' learning time. For example, the structure and curriculum in the Faculty of Architecture of the Royal Institute of Technology in Danzig (Königliche Technische Hochschule zu Danzig) until the end of the 1930s was based on the history of architecture. The structure of the Faculty of Architecture from 1904 to 1940, with only minor changes, was as follows [1]:

1. Department of building constructions, agricultural construction, urban planning and housing.
2. Department of ornamental design and theory of ancient Renaissance and Baroque architecture. In this department, classes on the history of architecture were combined with the design of public buildings.
3. Department of medieval architecture and religious architecture.
4. Institute of art history.
5. Department of watercolour and freehand drawing.
6. Department of building materials.
7. Department of heating and ventilation installations.

What does this structure tell us? New architectural designs follow historical forms. Sacral architecture is connected with Gothic, and public buildings' architecture is connected with antiquity, Renaissance and Baroque. Housing and agricultural buildings are not connected with history, but with the utilitarian issues of construction and urban planning. The aim of history of architecture teaching was to make students recognise the relations between the form, construction and function of the examples of historical buildings and, above all, the use of old forms in contemporary architecture.

Concurrently with the consolidation of the role of history in architectural education, after the First World War, a new, opposite idea appeared - to separate architecture from the past. An influential practitioner and theoretician of 20th Century architecture, Le Corbusier, postulated the creation of one universal language of architecture that everyone could understand. He divided feelings for forms into primary and secondary. If one assumes that architecture is to be based on primary feelings, then history is not needed.

> *Primary sensations determined in all human beings by the simple play of forms and primary colours. Example: lf I show to everyone on Earth - a Frenchman, a Negro, a Laplander - a sphere in the form of a billiard ball (one of the most perfect human materialisations of the sphere) I release in each of these individuals an identical sensation inherent in the spherical form: this is the constant primary sensation. (…) There are secondary sensations, varying with the individual because they depend upon his cultural or hereditary capital* [2].

In 1919, Bauhaus, a revolutionary art and craft school, was founded in Germany. The Bauhaus programme was the creation of modern architecture, functionally and integrally connected with other fields of art. The Bauhaus curriculum was based on the knowledge of materials; first stone, then brick, finally concrete and iron [3]. The history of architecture was reduced at the Bauhaus. In the 1930s, after the Nazis came to power, the functioning of Bauhaus became impossible. Walter Gropius, a founder and the first school director was invited to Harvard and in 1938 he became Chairman of the Department of Architecture. He practically removed the history of architecture from the programme of one of the most important architectural schools.

> *The new architecture espoused by Gropius had to make its way in confrontation with ingrained conventional practice - a consequence of which was the tendency to distance the new from historical roots and thus to inhibit the study of architectural history by impressionable young student architects* [4].

In 1938, the last chairman of Bauhaus, Ludwig Mies van der Rohe, moved to Chicago, where he became the Director of the School of Architecture at the Armour Institute of Technology (today the Illinois Institute of Technology), another very significant university. He also changed the curriculum of his faculty for one based on the Bauhaus curriculum. Mies van der Rohe was not as radical as Gropius, at least in his declarations. In his description of the school, from 1939, Mies began and ended with the need for cultural and historical education. He closed with:

> *The buildings of the past are studied so that the student will acquire from their significance and greatness a sense for genuine architectural values, and because their dependence upon a specific historical situation must awaken in him an understanding for the necessity of his own architectural achievement* [4].

However, studying history was supposed to lead students to the one and only proper architectural solution: the one Mies van der Rohe himself had developed. It was based on the reduction of the form to the shape of a set of cuboids and perfection of detail.

After the Second World War, the approach to the history of architecture changed.

> *The War precipitated a quite considerable change in national attitudes towards historic architecture and traditional townscapes. The threat of what could be lost as well as the memory of what had already been lost sharpened interest and* awareness *on the part of both government and populace* [5].

In Eastern Europe, which was destroyed by the war, there was another reason to strengthen the role of architectural history in education. The politically motivated style of so-called *socialist realism* was introduced. It was a version of historicism based on various local traditions. Since the 1930s, similar trends could be observed in the architecture of Nazi Germany, fascist Italy and the Soviet Union. Some dictatorships in Western Europe also used architectural, historic language as a propaganda tool. In Spain and Portugal, objects stylistically similar to the Stalinist architecture of Poland, Eastern Germany, Hungary or Czechoslovakia were built in the 1940s and 1950s.

Since the 1960s, changes have also taken place in American and British schools of architecture. The number of architectural historians and their role increased [4]. In 1966, an American architect and theoretician, Robert Venturi, published *Complexity and Contradiction in Architecture*, the manifesto of an architectural theory with extensive historical roots [6]. In 1972, Robert Venturi, Denise Scott Brown and Steven Izenour published *Learning from Las Vegas*, a book which helped to foster the postmodern architecture movement [7]. Several years later, historicising buildings began to arise worldwide as a reaction to the lack of variety of modern architecture, particularly in the *international style* advocated by Le Corbusier, Walter Gropius and Ludwig Mies van der Rohe. Postmodernism of this kind did not become a mainstream of 21st Century architecture, but undoubtedly it strengthened interest in the history of architecture.

There are some other new reasons for the interest in existing, historical architecture. Natural resources have been decreasing, places and extensive-use areas have been disappearing. The economic needs force more rational disposal of existing resources. The process of adaptive reuse, based on reusing sites or buildings for a purpose other than designed or built for, is increasingly important [8][9].

HISTORY OF ARCHITECTURE EDUCATIONAL PROGRAMMES: EUROPEAN PERSPECTIVE

What is the content of the history of architecture curriculum from an historical and geographical perspective? It can be determined by analysing several books written in English, which were the basis of education in the field of history of

architecture in the 20th Century. In 1896, Banister Fletcher published *A History of Architecture on the Comparative Method* [10]. The publication was reissued several times and had a big impact on the view of the history of architecture [11]. The most crucial pattern contained in this book presents the history of architecture as a tree with roots in ancient Greece. The achievements of European architecture constitute the main trunk. The architecture of Asia and South America consists of lateral blind branches. Africa does not exist in this pattern. Another influential historian and theoretician of architecture, Siegfried Giedion, in his book *Space, Time and Architecture: the Growth of a New Tradition*, presents its development as one uninterrupted chain of changes leading to modernism [12]. This development is illustrated by examples from Europe and the USA. Modernisation is Westernisation for Giedion [13].

Sibel Bozdoğan believes that the monumental step in the direction of including non-monumental and non-Western traditions in the architectural survey, coinciding with the growing interest in rethinking the Western canon, was the publication by Spiro Kostof, *A History of Architecture Settings and Rituals*, first edition in 1985 [14][15]. Kostof is an American architecture historian, born in Istanbul, of Bulgarian-Greek origin. He extended the field of architecture history. Two chapters, out of 29 of his books, entirely concern the architecture of countries outside Europe and North America, viz.:

- Chapter 3: *The Rise of the City and Architecture in Western Asia*.
- Chapter 4: *The Architecture of Ancient Egypt*.
- Another two chapters contain short sections on the architecture of the Islamic world, viz. *The Empire of Muhammed* in Chapter 12; *The Mediterranean in the Early Middle Ages* and *A Turkish Renaissance* in Chapter 19.
- Chapter 18, entitled *Spain and the New World*; Chapter 24: *American Experience*; and part of Chapter 25: *Victorian Environments*, concern the architecture of North America and also, marginally, South America, but from the perspective of European colonisation.
- In Chapter 27: *Architecture and the State. Interwar Years*; Chapter 28: *The Ends of Modernism*; and Chapter 29: *Designing the Fin-de-siècle, regarding 20th-Century Architecture*, Europe and North America are treated as an integral whole.

Looking at the location of the objects presented by Kostof, it could be noticed that his ideas are similar to, 100 years earlier, Sir Banister Fletcher's point of view. Even a prehistoric era is illustrated with examples from Great Britain, Netherlands, France, Spain, Italy and Malta. Such parts of the world as Australia, Vietnam, Korea, Thailand, Indonesia, Poland, Sweden, Norway, Czech Republic, and almost the whole Africa south of the Sahara desert, are non-existent.

Figure 1: Approximate location of the objects listed in Kostof, S., *A History of Architecture: Settings and Rituals*. Oxford, New York: Oxford University Press (1995) (Drawing by J. Szczepański).

At present, there is expansion of the range of historical architecture research. Since 2007, a series of conferences, *Modernism in Europe: Modernism in Gdynia* has been organised in Gdynia, Poland [16]. The title had been obsolete for many years. The field of modernism research has expanded to include countries outside the Western world. The concept of *multiple modernities* has appeared [13].

ARCHITECTURAL EDUCATION: HISTORY OF ARCHITECTURE AND MONUMENT CONSERVATION

Globally, the process of the internationalisation of higher education began with large migrations of students from Asia in the late 1970s. Great Britain, Australia and the United States, thanks to the widespread use of English, quickly became world leaders in this internationalisation. In continental Europe, the process began later, and after 1989 internationalisation movements also began in Poland.

At present, millions of students study abroad [17]. Since the signing of the Bologna Declaration in 1999, the priorities of European higher education institutions in international activities have been changing rapidly in terms of both content and

geographic directions [18]. Globalisation is also present in architects' education [19][20]. At universities, the number of students with diverse cultural roots is increasing. The transfer of knowledge about the North European Brick Gothic to a student from Nepal, who does not know European history, is both impossible and unnecessary.

At the same time, the number of objects to protect is increasing. They should be the subject of research and education. Researched and protected as monuments are objects which, until recently, were not considered valuable, such as concrete bunkers from the *cold war* built in the 1950s and 1960s [21] or carts of the last nomads in Europe [22]. Industrial facilities, such as shipyard cranes, although built in recent history, also became a part of the protected landscape [8].

The primary education goal is the Faculty of Architecture at Gdańsk University of Technology (FA-GUT), Gdańsk, Poland, is to prepare graduates to undertake creative, independent professional work and to equip them with both the basic knowledge, which would enable flexible adaptation to the changing needs in their profession, and the skills and habits of lifelong learning (Architecture Education Programme, Rector's of the GUT Regulations, No. 44/2016 of 29 December 2016). The history of architecture has a vital role in the education process. Carla Keyvanian states:

> *Some of what students learn today in studio classrooms might be obsolete by the time they are licensed architects. The history and theory of architecture are less perishable. History teaches about the past not in order to suggest formal solutions for the future, but to help make sense of the present* [23].

MEASURING THE EFFECTIVENESS OF TEACHING

Formerly, students were taught about ancient architecture, based on well-established, assumed unchangeable values, passed on to them by teachers and from books. Now, in the changing conditions of *fluid reality*, they should be able to value architectural objects by themselves. They study to find aesthetic, historical and emotional-sentimental values based on the traditions of different cultures. Students should also begin to see the history of architecture as a network, not Fletcher's tree with a European trunk.

In 1927, a German art historian, Aby Warburg, started to make a picture atlas called Mnemosyne [24]. The atlas consisted of wooden panels, on which nearly 1,000 pictures were pinned. The images were combined into interwoven threads forming a network of connections. However, this way of presentation, decades ahead of the idea of the Internet, was not applied to architectural education. Today it can be the model to bring positive results.

Several years ago, in the FA-GUT, in the second semester of Master's studies, a new subject was introduced: Problems of Architectural Heritage. Both the history of the architecture of the 19th and 20th Centuries, and the problems of its protection, is taught during the course. However, the focus is not on factography, but on the ability to evaluate. Three main aspects of the subject are:

1. The student analyses, on selected examples, the cultural, historical, technical values of architecture and urban assumptions of the 20th Century.
2. The student makes a multi-perspective analysis of architectural objects in the context of location in their conservation environment, including, among others, historical data on the building plot development and architectural tradition of the place.
3. The student acquires the basic principles and methods of operation used in the process of monument conservation and correctly applies them to solve problems.

However, the ability to evaluate mentioned in aspect number one is not an objective process. It should take into account both local conditions and local traditions. At the same time, students should be prepared to work in various places around the world. How to make them sensitive to the problems of protecting the other cultures' heritage, if they have varied cultural capital, based on various traditions, local history and aesthetics?

The international workshop teaching method is not only highly educative, but also productive [25]. However, this is an expensive solution, not available to everyone. The answer may be to organise classes on Problems of Architectural Heritage in groups of students from different countries, who teach each other how to evaluate architecture.

Several examples of Problems of Architectural Heritage exercises:

- National and neo-vernacular architecture at the turn of the19th and 20th Century in Spain, Slovakia, Turkey, Ukraine, Republic of South Africa and Poland.
- Reconstruction of Bologna (Italy), Warsaw (Poland) and Minsk (Belarus) after war damages.
- Monumental totalitarian architecture in Albania, Italy, Poland, Ukraine and Portugal in the 1940s and 1950s.
- Housing architecture in Belgium, Turkey, Poland and Portugal in the 1950s.
- Housing architecture in France, Poland, Romania and Slovakia in the 1960s.

How to measure the achieved results in terms of the goal, which was students' skills to evaluate architectural heritage? Test results were compared. In the years 2015 to 2018, classes on Problems of Architectural Heritage were conducted in

English, in groups of 19 to 30 students from: Albania, Bangladesh, Belarus, Belgium, China, Czech Republic, Egypt, France, Germany, Italy, Portugal, Romania, Slovakia, Republic of South Africa, Spain, Turkey, Sweden, Ukraine, United Kingdom and Poland (half of the group).

Before the classes, a test for students was carried out for seven to nine international students and the same number of Polish students. Students rated the value of architectural objects on a scale from one to five, taking into account historical, aesthetic and sentimental-emotional values. Architectural objects with ambiguous, difficult to assess values, for example, ordinary suburban brick workers' houses from the turn of the 19th and 20th Centuries, village houses or industrial facilities, were selected for evaluation.

RESULTS

At the start, the average value from the test was calculated separately for Polish and for international students. The same test was carried out after completing the Problems of Architectural Heritage classes, which lasted one semester. Some other architectural objects were presented, which were similar to those analysed at the beginning of the semester. The differences between the assessment of Polish and foreign students were calculated. Because in this case, it did not matter whether the objects were overvalued or undervalued, the absolute value (module) was taken into account. It turned out that before the classes, the average value as rated by international students differed from the value indicated by Polish students by 0.86 to 1.09. At the end of the semester, this difference was 0.19 to 0.48.

Table 1: Architectural objects' values in a student assignment.

		Before course			After course		
Academic year	Value	Polish students	Erasmus+ students	Difference (module)	Polish students	Erasmus+ students	Difference (module)
		Value	Value		Value	Value	
2015/ 2016	Historical	4.23	2.82	1.41	4.16	3.97	0.19
	Aesthetic	2.32	2.91	0.59	3.95	4.11	0.16
	Emotional	3.22	3.79	0.57	4.11	4.34	0.23
		Average difference		0.86	Average difference		0.19
2016/ 2017	Historical	0.85	2.63	1.78	4.00	4.31	0.31
	Aesthetic	1.94	2.63	0.69	3.52	4.33	0.81
	Emotional	3.22	3.79	0.57	2.03	2.34	0.31
		Average difference		1.01	Average difference		0.48
2017/ 2018	Historical	3.91	2.56	1.35	4.1	4.25	0.15
	Aesthetic	3.11	4.35	1.24	3.93	3.59	0.34
	Emotional	3.79	3.12	0.67	2.1	2.23	0.13
		Average difference		1.09	Average difference		0.20

CONCLUSIONS

In a changing world, it is possible to teach multinational students' groups how to evaluate historical architecture. However, the teacher's role in providing factual knowledge should be reduced. Instead, the participation of students' groups, organised in diverse teams, should increase. Tasks for teams should be provided in a way that would make every student able to use their cultural capital and share it with the others.

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BIOGRAPHY

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