## BUILDING WITH EARTH – PRACTICAL TRAINING FOR ARCHITECTURAL STUDENTS

During the last two decades the issues of sustainability occupies central space in the architectural discourse. The use of natural materials has become a positive sustained trend in the architectural studios and building sites worldwide. Therefore, the need for introducing such classes in the architectural schools. It is only natural to start with the traditions of vernacular architecture and its masterly use of local materials. The wide availability of materials, such as clay, wood, straw bales etc. and the intuitive building application techniques makes them perfect candidates for practical workshops.

The aim of this paper is to place the issue of practical training for students in the field of traditional building materials and methods firmly in the spotlight of the academic discourse and initiate a long overdue discussion on the subject. The author sees as an important goal to help re-branding the traditional architecture, its materials and techniques as a source for inspiration instead of being perceived as an old-fashioned.

There are two main resources for inspiration for achieving such goals. One is the study of the vernacular tradition. The other is to expose the students to the works of modern proponents for the use of natural materials — master builders form Bulgaria and abroad, who actively participate in the movement for revival of such building traditions by building new houses, restoring old ones and find new ways of applying natural materials.

Workshops in *Earth Architecture* are to be held as part of the curriculum of architectural education at VFU "Chernorizets Hrabar", led by well-known architect and pioneer of earthen buildings, arch. Georgi Georgiev. In his numerous articles and a e-published book" Building with natural materials" [1], Georgiev examines the traditions of building with natural materials, mainly clay bricks, wattle and daub, rammed earth on the Balkans and worldwide. The students will learn the basics of building with earth – selection of clay, mixing and making a clay bricks, building walls with rammed earth.

Another area of interest for practical training for students will be restoration of existing vernacular buildings from the Bulgarian Revival period. They are often in dilapidated state, with owners unwilling to invest in their upkeep. The participants will use traditional building techniques and materials during the renovations.[2] During the last decade the need for know-how and implementation of ancient methods of building with earth gathers momentum among professionals and lay people alike. The master-builders still practicing such methods are very rare, due to the pressure of modern construction methods that demand efficiency and use of concrete and steel. Therefore, the workshops

will help preserve their knowledge, enable them to pass it on and demonstrate that there are alternatives to the standard accepted methods of construction. Students also participate in woodworking workshops where they learn about different types of wood, traditional joinery and wood preservation — both in existing buildings and new construction projects.[3] Another study field is stonemasonry. Under the guidance of experienced stone masons students will learn about common types of stones and various methods of building stone walls the traditional way.

Architectural education based on traditions will help the students to form an understanding about their relationship with nature and their role in creating a sustainable living environment for the people. Practical workshops are essential tools, teaching lessons in materiality and understanding of detailing which are important for any architect.

*Key words: workshops, natural building materials, vernacular architecture, earth buildings*Bibliography:

- [1] Георгиев, Г. Строителство с естествени материали, Електр. издание, 2015
- [2] Илиева, Ж. Строителни материали и техники във възрожденската архитектура на Троян и околните селища, Годишник на УАСГ, том 52, брой S1, ISSN 2534-5759, стр. 1583-1595, 2019
  - [3] Илиева, Ж. Дървени покривни конструкции във Варна от края на XIX и началото на XX век, Сборник доклади от IX Международна научна конференция "Архитектура и строителство ArCivE", ВСУ "Черноризец Храбър"-Варна, ISSN 2367-7252, стр.105-120, 2019

Письмак Ю. О., ст. викл.

Одеська державна академія будівництва та архітектури

## ПРОБЛЕМИ ЗБЕРЕЖЕННЯ, ПІДСИЛЕННЯ КОНСТРУКЦІЙ І РЕСТАВРАЦІЇ ОБ'ЄКТІВ АРХІТЕКТУРНОЇ СПАДЩИНИ (В КОНТЕКСТІ СУЧАСНОЇ АРХІТЕКТУРНОЇ ОСВІТИ)

Кінець другого десятиріччя XXI ст. являє нам приклади здійснення сміливих проєктів збереження і реставрації дуже цінних об'єктів архітектурної спадщини Одеси і Одеського регіону. Яскравим прикладом цього є підсилення конструкцій і реставрація фасадів визначної пам'ятки архітектури у самому «серці» Одеси — будинку А. Руссова (вул. Садова, 21) (Рис). Сьогодні попередній успіх розвивається і закріплюється проведенням робіт з підсилення (зміцнення) конструкцій і реставрації фасадів сусідньої будівлі (також шедевра архітектури) — будинку Лібмана, розташованого на розі вулиць Садової і Преображенської.

Епопея збереження від руйнації, посилення конструкцій і реставрації будівлі Одеського національного академічного театру опери і балету (1998 – 2007 рр.) має стати основою для створення колективної монографії про вдалий досвід реставраційних робіт. Палац І. Куріса в Лиманському районі Одеської області є пам'яткою архітектури національного значення.