

Uncovered: Students' Technical Drawings from the 1920s

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The Zagreb EAAE 2019 Annual Conference provides a unique opportunity to reflect the theme of 100-years long teaching of technical disciplines to architecture students and to present a selection of their early works created from the 1919s to the 1926s in construction courses at the Royal Technical High School of Architecture. When founded in 1919, the Zagreb Faculty of Architecture was originally named the Royal Technical High School. Until 1926 in architecture department four generations of architects were educated and altogether forty architects received the Royal Technical High School diploma. The name of the school itself meant that the educational context of construction courses was a distinct feature of the school. The teaching of technical disciplines to architecture students has long been recognized as important and challenging. In building construction courses' syllabus students gain technical knowledge in technical drawing, building construction systems, building materials, structures, elements and detailing of construction systems.

For me, as an academic staff member teaching technical courses at the Department of Architectural Technology and Building Science, at the Faculty of Architecture, University of Zagreb, it is interesting to see how the technical drawings looked like 100 years ago. Within the scope of this conference titled 'The Hidden School', the paper is dealing with 'the hidden treasure' that was kept in drawing storage cabinet for 100 years. In a way, it is a real wonder, that some students work survived to the present days and resisted constant changes of a large number of professors who occupied the room 227 on the second floor throughout the years. Moreover, for a scientist working periodically in the research process of collecting the original drawings, looking over these rare editions of students' technical drawings, with a knowledge of their later practice as respectable architects or distinguished professors, is one of the most exciting aspect of research. These never-before-seen drawings of the early works of some architects as a primary source research material has a special relevance. The collection includes detail drawings by Alfred Albini and Stanko Kliska (the 1st generation), Juraj Denzler, Egon Steinmann and Zvonimir Vrkljan (the 2nd generation), Bogdan Petrović, Vladimir Potočnjak and Ernest Weissmann (the 4th generation). For this purpose, eight different works have been selected, representing the technical drawings created within the course Building Construction I and II taught by professor Karlo Gentzkow in the first and second year. The course provided the basic knowledge about structural systems based on various materials (masonry systems, timber systems and steel structures, etc.), building materials and structural elements (stairs, windows, doors, roof and floor

structures, ceiling systems, etc.) as well as corresponding details and complex junctions (railings, floor coverings, etc.). The importance of practical application of theory is evident in drawing assignments that show in detail how to construct traditional building structures (timber roofs, vaults, decorative elements of masonry walls, decorative surface details, etc).

Traditionally, drawings were made in ink and color pencil on cardboard paper of large format. Today, when the majority of drawings are made by using computer-aided design systems, handmade works show the mastery of the drawing technique. The natural feeling of ink on paper can be looked at with nostalgia. Probably all the drawings were made under the assistance of a teacher using typical scales for building construction details and full-size plans and sections, but even this limited selection of early works reveals good drawing skills, frequent additional use of color and the ability to draw building elements in three dimensions.

Selected students became later well-known architects and had strongly influenced the creation of international functionalist architecture movement emerged as part of the wave of Modernism. They actively participated in the process of designing and constructing the inter- and post-war Croatian architecture — public buildings (Denzler, Kliska, Steinmann), hospitals (Kliska, Steinmann, Weissmann), faculty buildings (Vrkljan, Albini) and residential buildings (Petrović, Potočnjak, Weissmann). Among other achievements, some students achieved a career as university professors at the Zagreb faculty (Albini, Denzler and Vrkljan) or at the Belgrade faculty (Kliska).

Although a century has passed, and architectural technology has greatly advanced, if we look closely at the content of students' detail drawings, it seems that not much has changed. Fundamentals (materials, terms, principles and systems) of architectural construction courses are being taught in the same way.

Today as building construction is becoming increasingly complex with the use of a very advanced technology and contemporary building materials, the field of architectural technology is becoming more and more important. Also, from today's perspective, understanding the basics of building construction helps to design and construct a building project successfully.

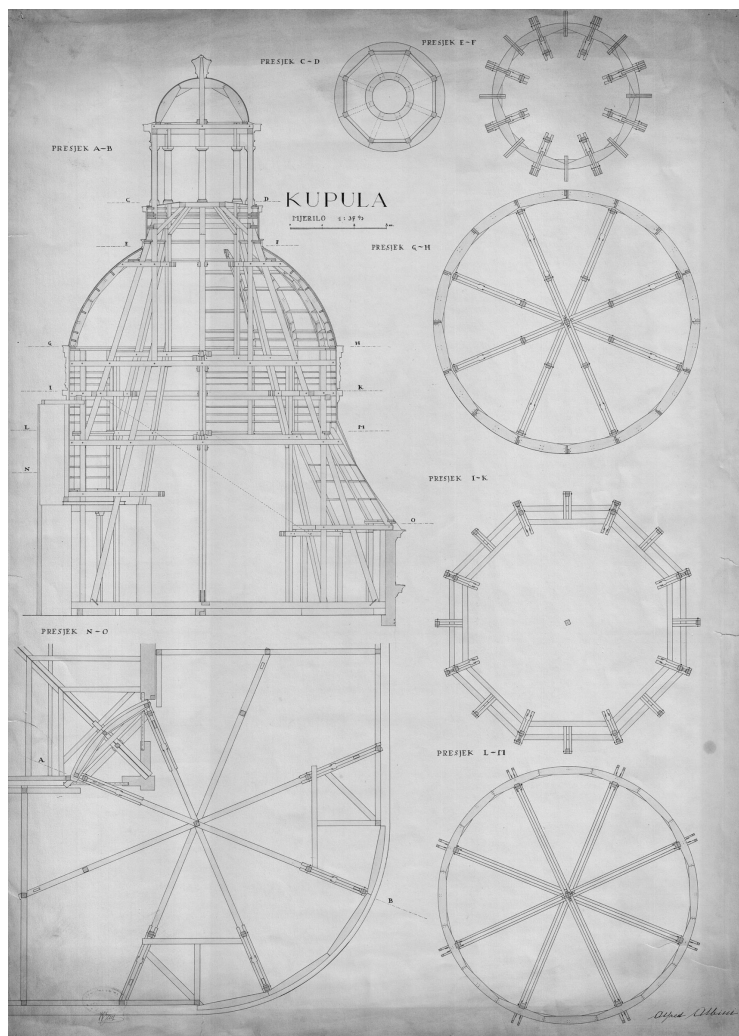
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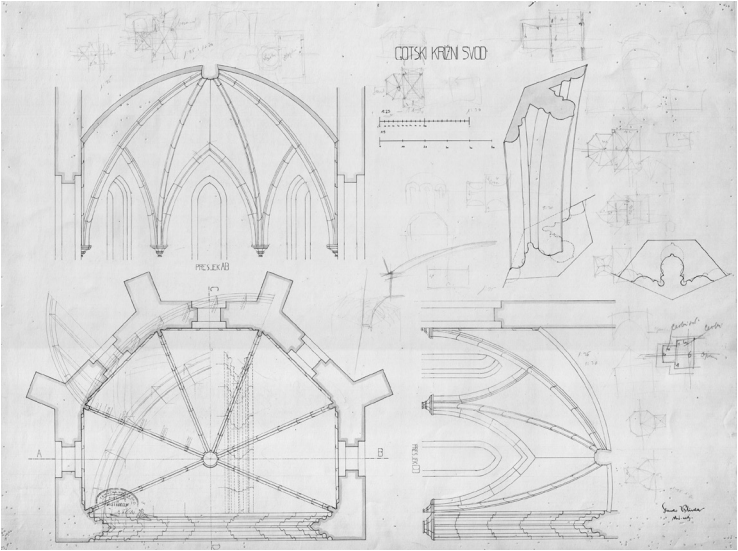
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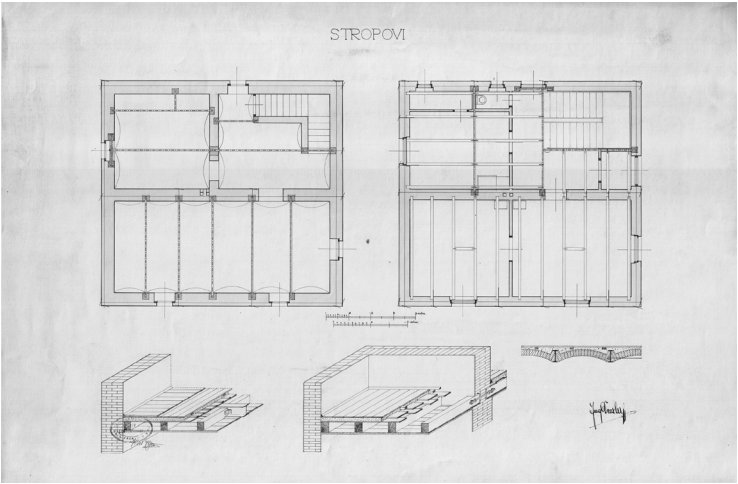
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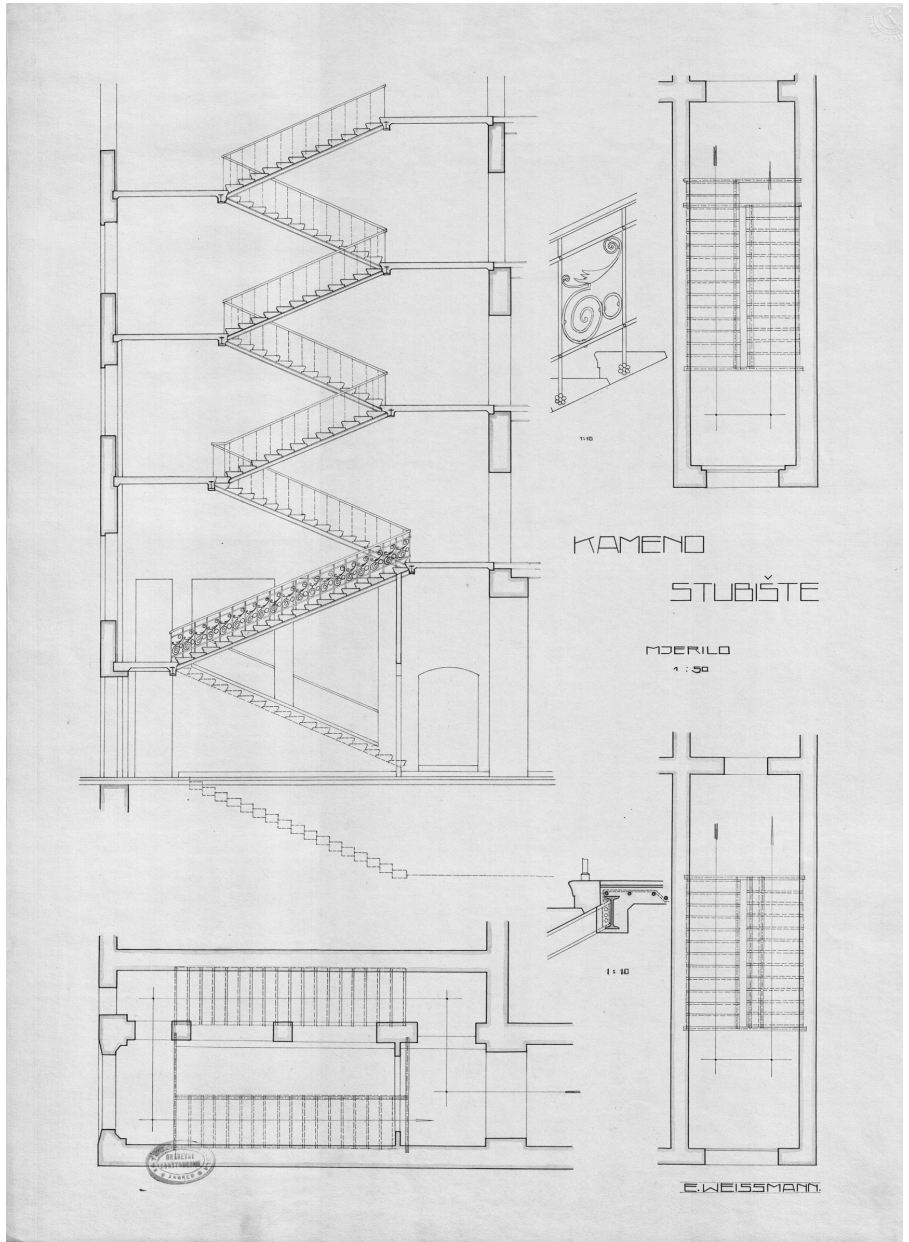
1: Alfred Albini: Dome



2: Stanko Kliska: Cross vault



3: Juraj Denzler: Ceilings



4: Ernest Weissmann: Stone stairs