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# ARCHITECTURAL DRAWING AT GDAŃSK UNIVERSITY OF TECHNOLOGY FROM 1904 TO 2024

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*The article analyzed the programs and teaching methods at the Faculty of Architecture of the Gdańsk University of Technology in terms of hand drawing as the basic means of architectural teaching in the 20th century. Contemporary changes in this area are also presented.*

*The Gdańsk University of Technology (Technische Hochschule Danzig) was established in 1904 as a university with German as the language of instruction. The Faculty of Architecture existed there from the beginning. In 1945, the former was transformed into the Polish Gdańsk University of Technology (Politechnika Gdańska). After 1945, the Faculty of Architecture of the Gdańsk University of Technology continued mainly the traditions of the two faculties existing before World War II at the Lviv University of Technology and the Warsaw University of Technology, and the Faculty of Fine Arts at the University of Vilnius. The most important was the tradition of the Lviv school, from which the curriculum was transferred almost unchanged after 1945 and from which most of the teachers at the Gdańsk Faculty came.*

**Keywords:** *Cultural Heritage, Architectural education, Architectural drawing, Gdańsk University of Technology, Lviv Polytechnic.*

## Education of Architects in Poland in the 19th and 20th Centuries

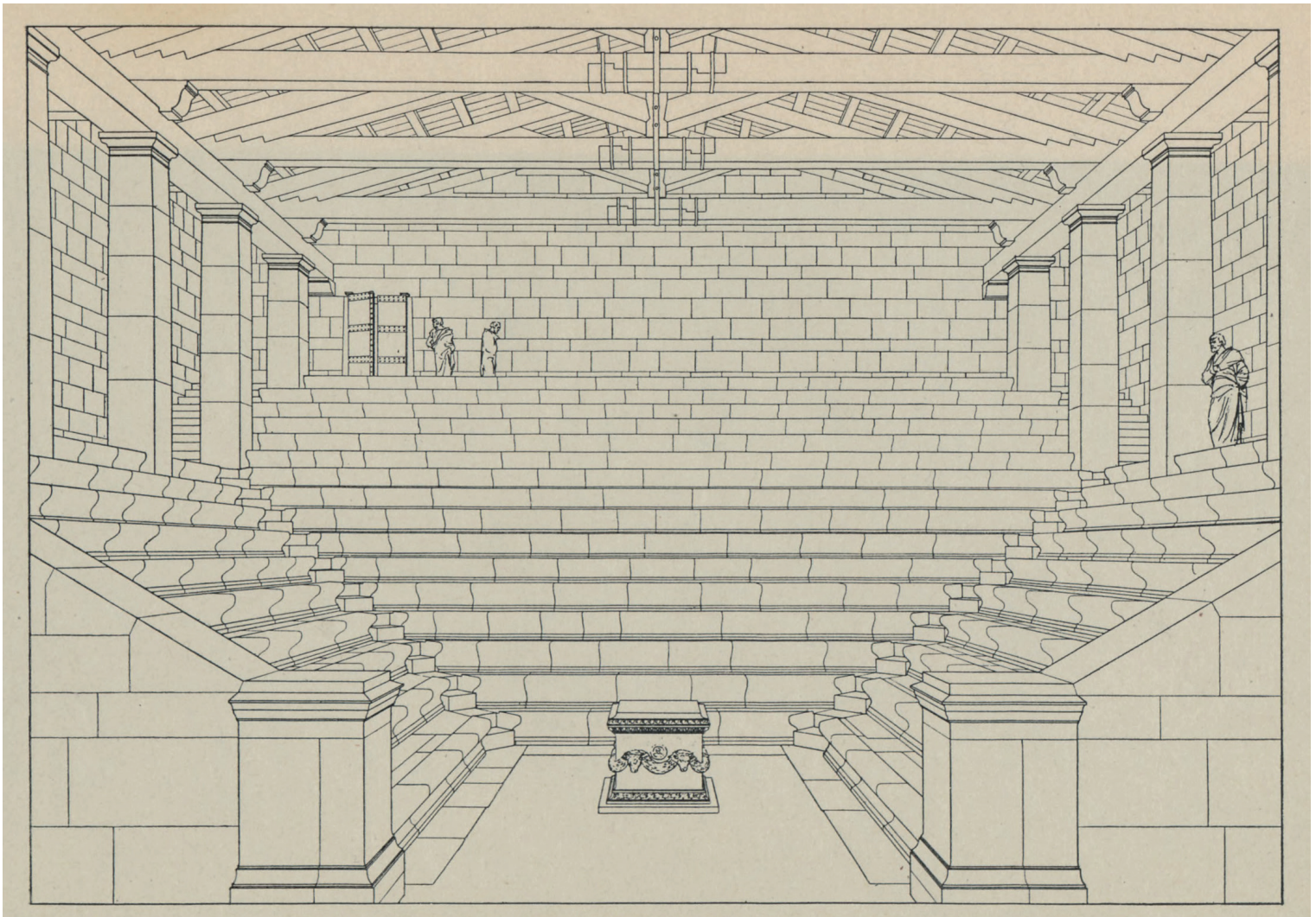
The history of architectural drawing in Poland is a confluence of many different traditions and customs originating from various countries. The article presents architectural drawing at Gdańsk University of Technology as an outcome of these traditions.

Today's Faculty of Architecture at Gdańsk University of Technology is the successor to several earlier scientific and educational units that originated from diverse cultural, national, and political backgrounds. These include the faculties of architecture at Lviv Polytechnic, Warsaw University of Technology, Technische Hochschule Danzig (today Gdańsk University of Technology), and the Faculty of Fine Arts at Stefan Batory University in Vilnius. The history of architectural draw-

ing at Gdańsk University of Technology, therefore, reflects the broader history of this field across much of Europe, specifically in the lands that are now part of Poland, Lithuania, and Ukraine, which were at the turn of the 19th and 20th centuries under the rule of the Russian, German, and Austro-Hungarian Empires.

In this part of Europe, architectural education from the 19th century to the present has primarily been conducted at technical universities. Before World War II, there were two Polish technical universities, in Lviv and Warsaw, both featuring faculties of architecture. There were also attempts to organize architectural education at the Faculty of Fine Arts at Stefan Batory University in Vilnius and at the Academy of Fine Arts in Krakow. In Gdańsk, there was also a technical university with a Faculty of Architecture, however, with German as the language of instruction.

1 | Side Page. Council hall in Priene. Student's drawing as part of the subject of ancient architecture. Gdańsk University of Technology, Faculty of Architecture. *Ausstellung historischer Baukunst: Forschungsergebnisse der Abteilung für Architektur, Danzig 1931.*



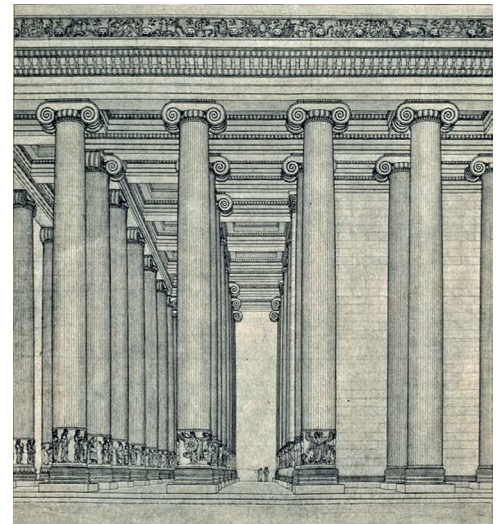
Lviv Polytechnic, the oldest Polish technical university, was founded in 1844 as the Technical Academy with German as the language of instruction. From its earliest years, the university undertook the education of architects, among other disciplines.

In 1877, the Academy was transformed into the Polytechnic School, where lectures were conducted in Polish. During World War II, from 1942 to 1944, it operated as the Staatliche Technische Institute. In 1945, after Lviv was occupied by the Soviet Union, the Lviv Polytechnic Institute worked in the Polytechnic's buildings, using Russian as the language of instruction. Since Ukraine gained independence in 1991, the university language has been Ukrainian.

The technical university in Warsaw was established in 1898 as the Warsaw Polytechnic Institute named after Tsar Nicholas II,

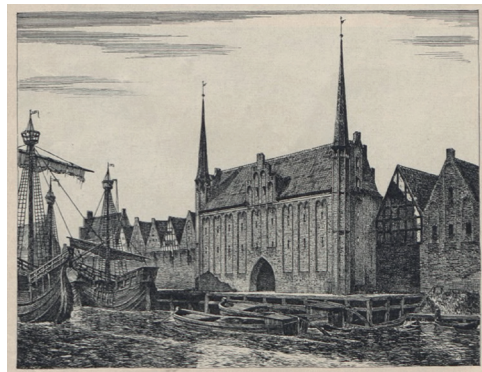
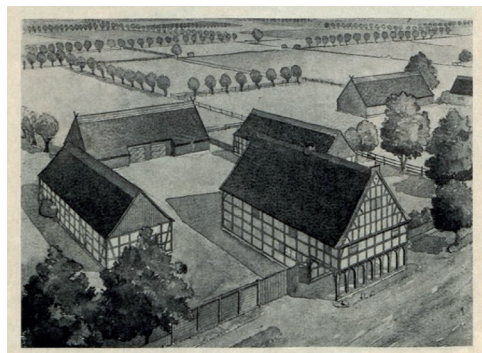
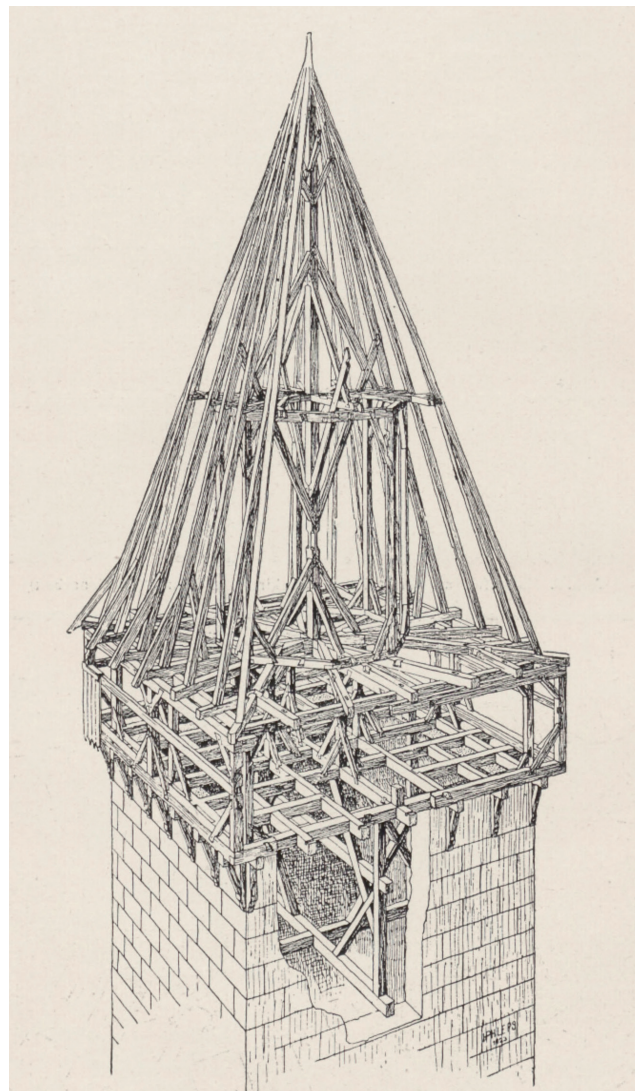
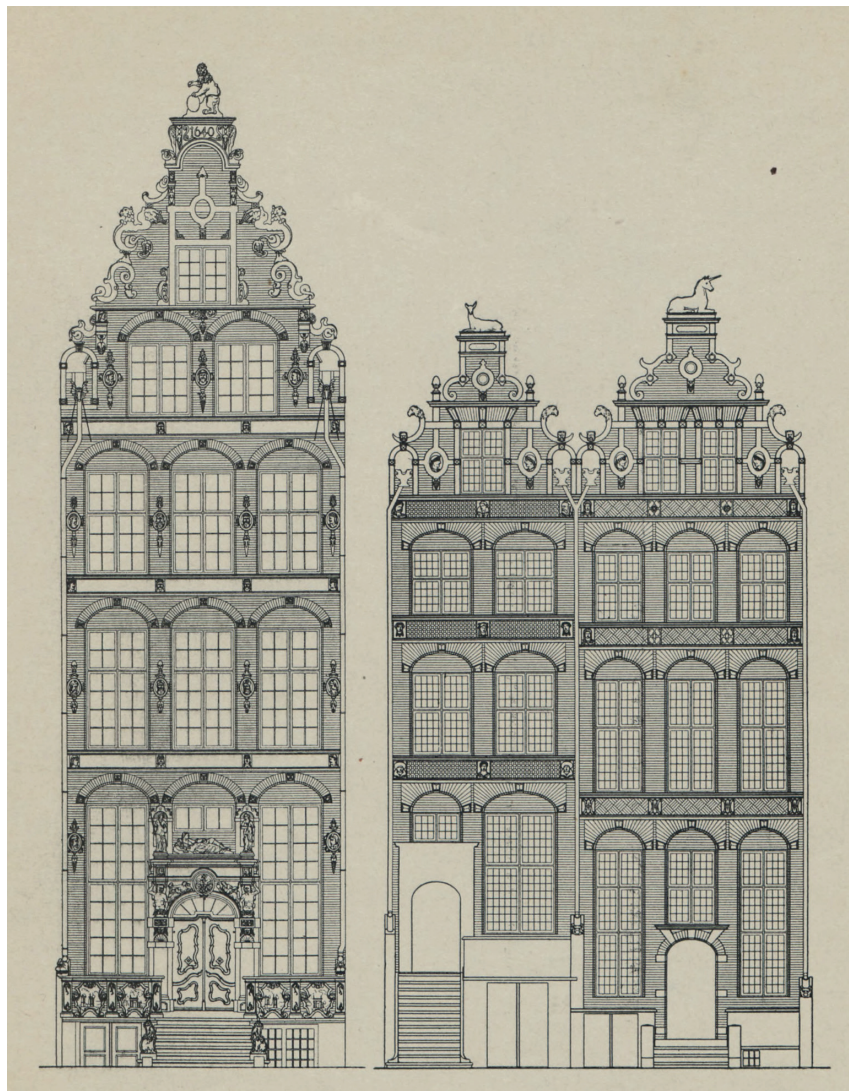
with Russian as the language of instruction, and without a separate faculty of architecture. In 1915, it was transformed into the Warsaw University of Technology, and the Faculty of Architecture was established as one of its four faculties.

Architectural education at a technical higher education institution in Gdańsk has a tradition spanning over a century. Throughout its history of more than a hundred years, Gdańsk University of Technology has operated under several different political regimes. It has been a state institution of the German Empire, the Weimar Republic, the Free City of Gdańsk, the Polish People's Republic, and the Republic of Poland. The Faculty of Architecture was one of the six faculties of the first higher education institution in Gdańsk (Königliche Preussische Technische Hochschule), established in 1904. After World War I, following the



2 | Temple of Artemis in Ephesus. Drawing by student von Karnapp as part of the subject of ancient architecture. Gdańsk University of Technology, Faculty of Architecture. *Lehrausstellung der Technischen Hochschule Danzig, Danzig 1934.*





fall of the German Empire and the Kingdom of Prussia, the Free City of Gdańsk was created based on the terms of the Treaty of Versailles. Free City was a quasi-state entity under the formal political control of the League of Nations and the Republic of Poland, yet with a population which primarily spoke German, which received the polytechnic.

After the reoccupation of the Free City by Germany, between 1939 and 1941, the institution operated as the Technische Hochschule Danzig (Danzig Technical University), and from 1941 to 1945, it was known as the Reichshochschule Danzig (Danzig Imperial University). After World War II, following the decisions made by the great powers regarding border changes in Central Europe, most of the German-speaking residents of Danzig were forced to leave their city. Similarly, millions of Poles were compelled to leave their homes in the

3 | Tenement Houses Piwna 1 and Targ Drzewny 5-6. Drawings in the cathedral of Renaissance and Baroque architecture. Gdańsk University of Technology, Faculty of Architecture. *Ausstellung historischer Baukunst: Forschungsergebnisse der Abteilung für Architektur, Danzig 1931.*

4 | Roof truss of a Gothic tower. Drawing by Hermann Phleps, 1924. Gdańsk University of Technology, Faculty of Architecture. *Pohlhausen, Die Technische Hochschule Danzig, Danzig 1930.*

5 | A typical country house in the Vistula Delta. Kotli student drawing. Gdańsk University of Technology, Faculty of Architecture. *Lehrausstellung der Technischen Hochschule Danzig, Danzig 1934.*

6 | Reconstruction of the defensive gate in Gdańsk. Drawing of Dr. Munter and student Fritzler. Gdańsk University of Technology, Faculty of Architecture. *Lehrausstellung der Technischen Hochschule Danzig, Danzig 1934.*

<sup>1</sup> Cfr. Żychowska, *Teaching drawing to a new generation of engineers architects*, pp. 60–65 and Białkiewicz, *Rola Rysunku w Warsztacie Architekta. Szkoła Krakowska w Kontekście Dokonań Wybranych Uczelni Europejskich i Polskich.*



7 | Measurement of the portal in the city of Levoca, student exercise, Lviv Polytechnic, Faculty of Architecture. Levoca, Lviv 1929.

8 | Plan of the Romanesque church in Tum near Łęczycza. The album with drawings on the history of architecture by student Otton Fedak, 2nd year of studies, 1926/1927. Lviv Polytechnic, Faculty of Architecture.

former eastern territories of Poland, which were occupied by the Soviet Union. In April 1945, the former Technische Hochschule was formally transformed into the Polish Gdańsk University of Technology. The institution survived within the same walls; however, the former staff were replaced by new personnel. Soon after World War II, new Faculties and Divisions of Architecture were established in Wrocław, Gliwice, Poznań, and Kraków. They were largely formed by scientists from the Lviv Polytechnic. The issue of architectural drawing became particularly important at the Cracow University of Technology<sup>1</sup>. Later, faculties and departments of architecture were also established in Szczecin, Białystok, and Łódź, followed by several smaller units.

### Architectural Drawing in Lviv before 1945

The curriculum and organizational structure of the Faculty of Architecture at the Lviv Polytechnic were based on the model of Austrian polytechnics. The representation of the existing and imagined world was taught at the Faculty of Architecture at the Lviv Polytechnic across several departments and subject groups. In 1872, the Department of Drawing and Modeling was established at the Lviv Polytechnic.

It was headed by Leonard Marconi, a sculptor of Italian origin.

The department underwent several name changes until 1945, but its activity profile remained consistent. Teaching focused on academically traditional representation of reality, including figure drawing, studies of plants and birds, and studies of ornamentation in historical stylization from models and monuments. The course "Historical Architecture" taught in the Department of Historical Architec-

9 | Gothic moulders. The album with drawings on the history of architecture by student Otton Fedak, 2nd year of studies, 1926/1927. Lviv Polytechnic, Faculty of Architecture.

ture included drawing representations of historical forms from antiquity to the Renaissance.

In 1870 a separate Department of Descriptive Geometry was established. The teaching of drawing at the Lviv Polytechnic emphasized the accuracy of form representation, construction, perspective, and anatomy. The artistic aspect was not considered important.

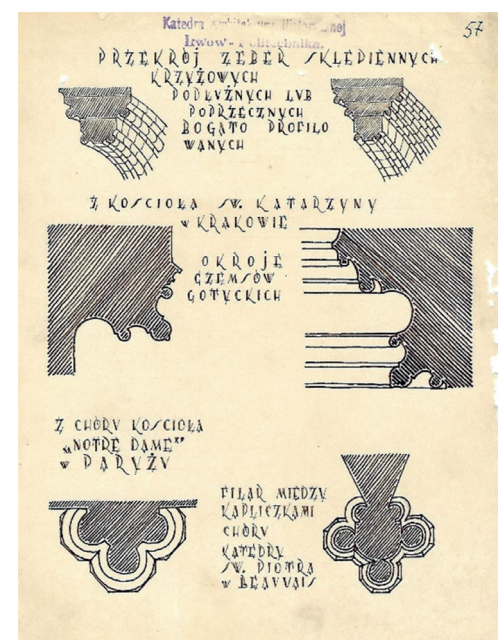
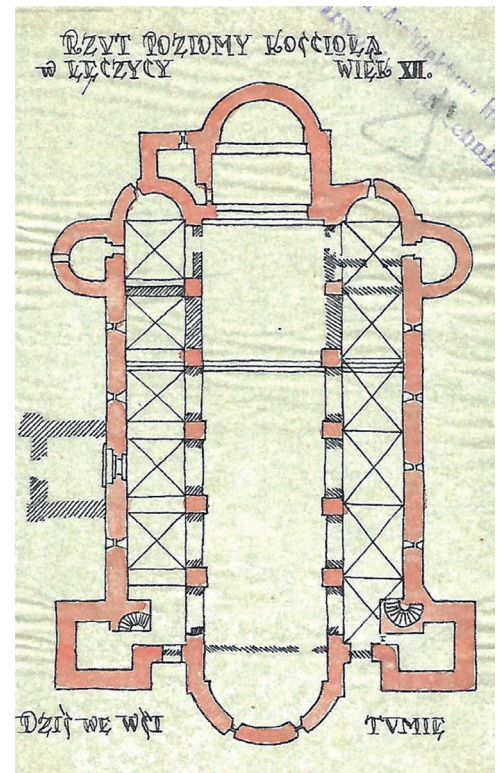
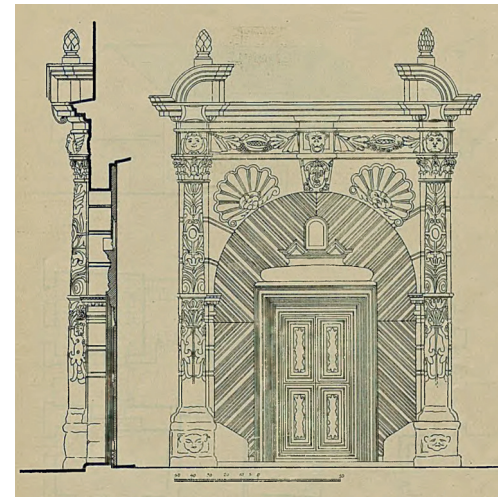
This program and method of education at the Lviv Polytechnic were challenged as being too technical. In 1905, students gathered at a rally demanded a reorganization of architectural drawing. Three years later, Waclaw Krzyżanowski, a young graduate of the Faculty of Architecture at the Lviv Polytechnic, emotionally criticized that the teaching of drawing at the institution was limited to "copying birds from a pattern book."

At a subsequent rally held on March 17, 1908, the students demanded, among other things:

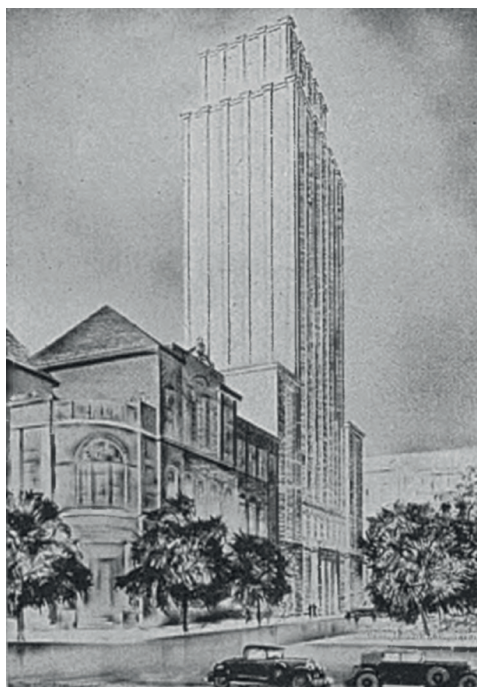
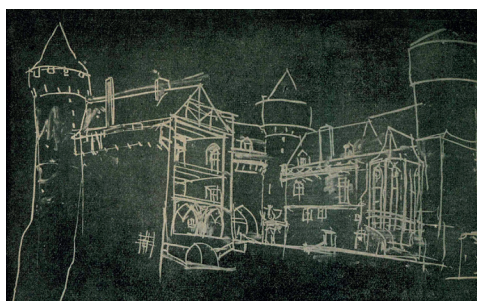
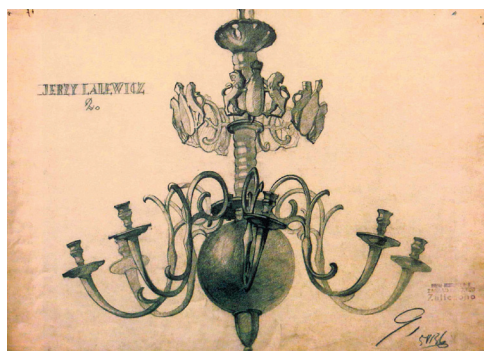
- The separation of drawing from the department of architectural history, while simultaneously increasing the number of classes related to both architectural history and drawing.

- The introduction of lectures on perspective and shading, combined with practical exercises.

The students' demands were supported by the Congress of Delegates from Polish Architectural Circles. However, they were only partially implemented. More than a quarter of a century later, the teaching of history and architectural drawing still occurred within the same department, which had been headed by architect Marian Osieński since the 1920s. In the course "Historical Architecture," the curriculum included "Drawing reproduction of architectural orders and distinctive features of styles."







10 | The top of the castle chapel in Lublin. The album with drawings on the history of architecture by student Otton Fedak, 2nd year of studies, 1926/1927. Lviv Polytechnic, Faculty of Architecture.

11 | Chandelier, pencil drawing, student Jerzy Lalewicz, 1934, Warsaw Institute of Technology, Faculty of Architecture.

12 | Medieval castle, chalk drawing on a blackboard, Stanisław Noakowski, ca. 1920 Warsaw Institute of Technology, Faculty of Architecture.

13 | Warsaw city center, drawing by Eugeniusz Szparowski. Album of Young Architecture, Warsaw 1935.

The completion of "Historical Architecture" was based on the presentation of notes and drawings by the students. Osipiński also taught "Architectural Drawings," described as "transferring spatial architectural forms onto a drawing plane." The students' demand regarding the teaching of perspective was fulfilled. In 1913, Kazimierz Bartel took over the leadership of the Department of Descriptive Geometry. In 1928, he published the book "Painterly Perspective Principles – Historical Outline – Aesthetics," and a course titled "Painterly Perspective" was introduced into the curriculum.

### Architectural Drawing in Warsaw before 1945

At the Warsaw University of Technology, the curriculum placed a more pronounced emphasis on drawing and other visual arts than was observed at the Lviv Polytechnic. Following the institution's transformation into a Polish polytechnic in 1915, the Faculty of Architecture responded to these academic priorities by

establishing the Department of Freehand Drawing. Zygmunt Kamiński, a renowned painter and graphic artist, was appointed to this department. Ascending to the departmental leadership in 1921, Kamiński managed it until his retirement in 1960. Notably, Kamiński was an illustrious figure in the arts, credited with designing patterns for national banknotes and the emblem of the Republic of Poland, which remains in official use to this day. Within the Department of Freehand Drawing, both painting and sculpture was taught. However, the department head prioritized the instruction of drawing as the cornerstone of visual arts education within the faculty. He articulated the essence of nearly five decades of his tenure at the Faculty of Architecture by stating, «The objective of teaching visual arts within the Faculty of Architecture is solely to equip students with foundational competencies in the manipulation of drawing instruments». In the initial year of the curriculum, the coursework within the Department of Freehand Drawing concentrated on rendering basic geometric forms



with attention to the rules of perspective; producing sketches of straightforward plaster casts, such as fragments of cornices, balusters, rosettes, and mascarons; as well as portraying objects characterized by diverse textures including wood, ceramics, glass, and metal. In their second year, students engaged in drawing more complex plaster casts, such as copies of ancient sculptures, and conducted drawing studies of both historical and contemporary furniture, as well as machinery, including cars, bicycles, and motorcycles. In the third year, alongside painting, the curriculum included life drawing studies of the human figure. By the fourth year, students continued to explore the theme of the human form through life drawings and anatomy lessons.

During the nearly forty-year period in which Kamiński led the Department of Freehand Drawing at the Warsaw University of Technology, there was a distinct emphasis on students conveying through their drawings what they knew about the subject, rather than what they saw. This approach resulted in a very conservative, academic style of drawing. It was only in the 1950s that the curriculum of the Department of Freehand Drawing at the Warsaw University of Technology was supplemented with a course on “perspective drawing.” The course was taught by architects, with the theme centered on “acclimating students to perceive and artistically express the characteristics of architecture.”

An important component of architectural education in Warsaw University of Technology involved the measurement of architectural monuments, carried out by the Department of Polish Architecture. Based on these measurements, students engaged in the course “architectural drawing,” which was conducted outside of the Department of Freehand Drawing. They produced drawings of portals, tombstones, and similar elements using a variety of graphic techniques.

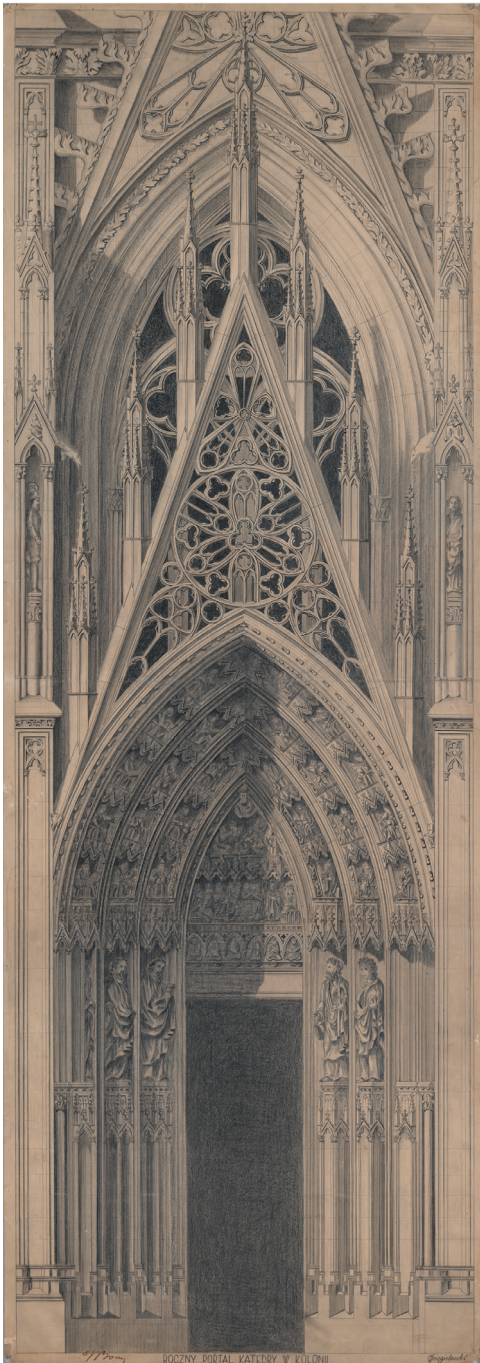
Following the establishment of the Polish polytechnic in Warsaw, a significant challenge emerged concerning the instruction of Polish architectural history. After more than a century of non-existence of the Polish state, there were neither textbooks nor a teaching tradition for this subject.



14 | Plaster bust, pencil drawing, student Witold Benedek, 1949, Warsaw Institute of Technology, Faculty of Architecture.

“ The objective of teaching visual arts within the Faculty of Architecture is solely to equip students with foundational competencies in the manipulation of drawing instruments.





15 | Portal of the cathedral in Cologne. Drawing Zbigniew Dziegielewski, ca. 1949, Gdańsk University of Technology, Faculty of Architecture.

16 | Side page. Hagia Sophia Church in Constantinople, ink drawing, student Zbigniew Czekanowski, 1948, Gdańsk University of Technology, Faculty of Architecture.

17 | Side page. Jacek Tower in Gdańsk, pen drawing, student exercises, ca. 1950, Gdańsk University of Technology, Faculty of Architecture.

This issue was part of a broader problem where the study and teaching of architectural history were heavily focused on Mediterranean and Western European traditions, with almost total neglect of the rest of the world. Stanisław Noakowski, an architect lecturing on Polish architectural history at the Warsaw University of Technology, employed an original method of drawing imagined, fantastical buildings that, in his view, embodied the “spirit of Polish architecture.” He created drawings using chalk on blackboards, ink drawings, and painted watercolors. Noakowski’s rapid, sketch-like drawing technique and his method of capturing the essential features of architectural objects served as a significant inspiration for young architects.

### Architectural Drawing in Gdańsk 1904-1945

At the Faculty of Architecture of the Gdańsk University of Technology, which was established in 1904, the teaching of drawing within the course titled “free-hand drawing and watercolor” was conducted by the painter August von Brandis. His most significant works are impressionistic depictions of historical interiors. However, his impressionistic style of illustration was not favorably received by other faculty professors, and in 1909, von Brandis transferred to the Faculty of Architecture at the Aachen University of Technology where he was appointed as a full “professor of figure and landscape painting.” In 1909, Fritz Pfuhele replaced von Brandis. He introduced more traditional methods of teaching students and remained in the position of professor of “freehand drawing and watercolor” until 1945.

The conflict over the modern method of depiction reflected the general atmosphere at the Faculty of Architecture in Gdańsk before 1945. This unit was the most conservative, opposing modernist ideas among all Germany.

Architecture students at the Gdańsk University of Technology learned drawing not only in the relatively few “freehand drawing and watercolor” classes. Significantly more student drawing work was created in classes dedicated to historical architecture. Students created precise representations of existing or imagined

local and European buildings, strictly adhering to geometric principles.

Part of the studies also included classes on descriptive geometry. The exercises primarily involved drawing axonometric projections and perspectives of solids, whose projections were displayed on pre-prepared charts, printed by the Berlin Polytechnic.

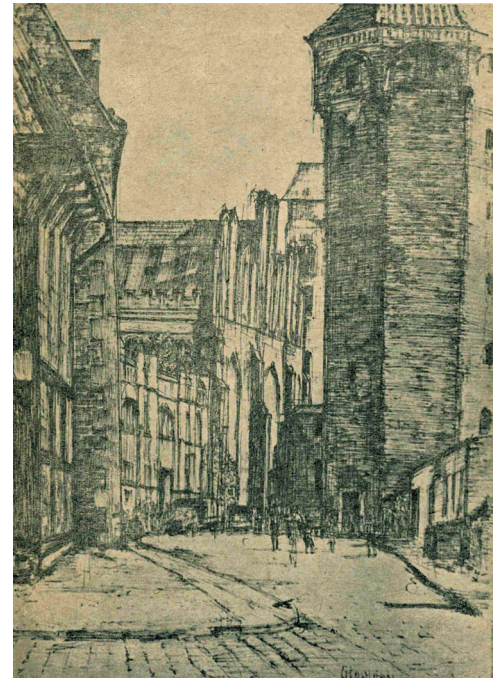
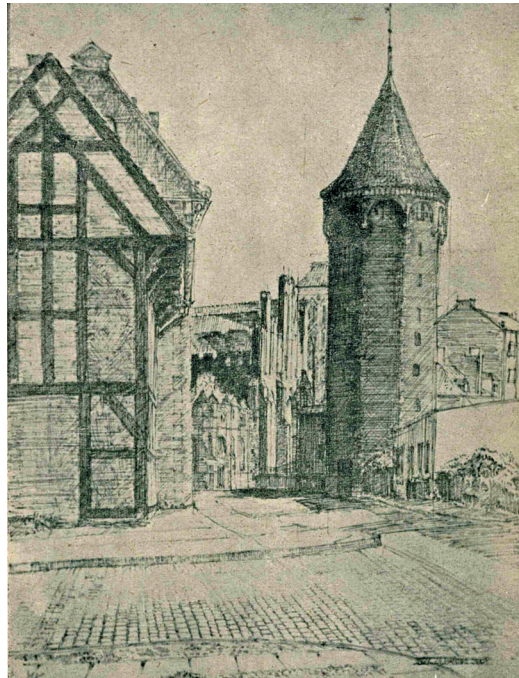
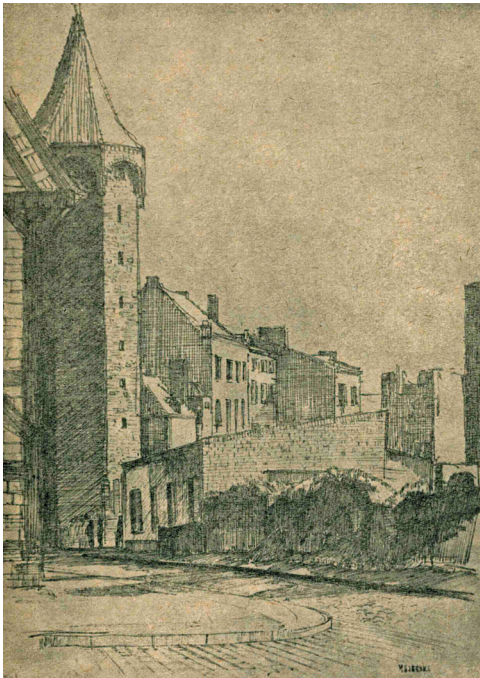
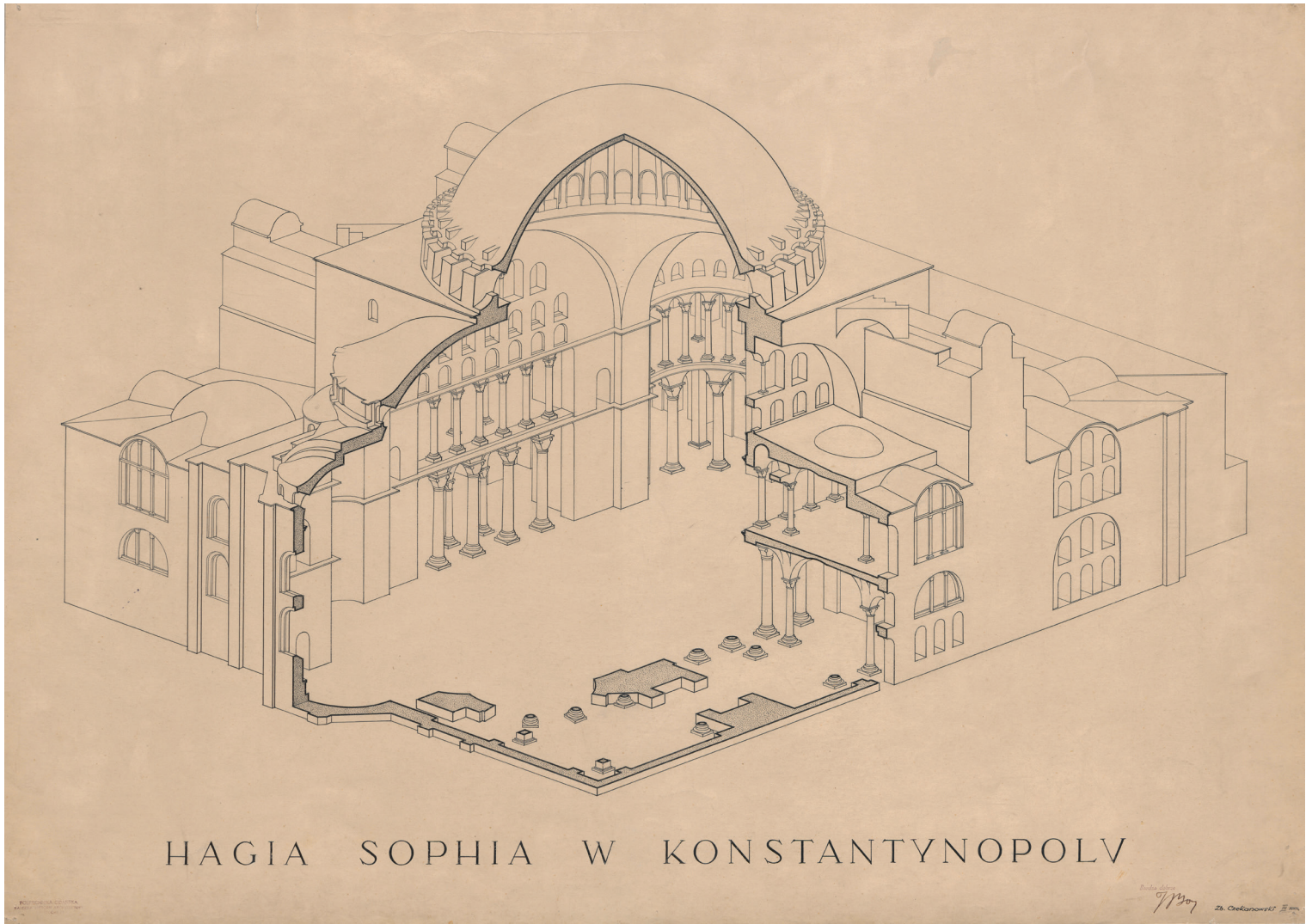
### Architectural Drawing in Gdańsk after 1945. Continuation of the Lviv Tradition

The Gdańsk University of Technology is the formal successor to the Technical University founded in 1904, but after 1945, the Faculty of Architecture adopted the educational methods based on the traditions of the Lviv Polytechnic. After 1945, the curriculum from Lviv was transferred to Gdańsk almost unchanged. The majority of the teaching staff at the Faculty of Architecture in the initial post-war years consisted of former employees of the Lviv Polytechnic.

The remaining professors originated from other pre-war Polish academic institutions, including the Warsaw University of Technology, Vilnius University, and only a few from the pre-war Gdańsk University of Technology. Besides the universities in Lviv, Warsaw, and Vilnius, other centers where the creators of the Gdańsk Faculty of Architecture were educated and worked included technical universities in Munich, Vienna, Karlsruhe, and Kiev, the University of Rome, and the fine arts academies in Krakow and Karlsruhe.

In 1945, the first Dean of the Faculty of Architecture at the Gdańsk University of Technology was Prof. Władysław Lam, previously the head of the Department of Freehand Drawing at the Lviv Polytechnic. On December 1, 1945, the role of Dean was taken over by Prof. Marian Osiński, an architect and historian of architecture who had been the head of the Department of Architectural History at the Lviv Polytechnic since 1934 and was also the Dean of the Faculty of Architecture there from 1936 to 1938. In 1952, the role of Dean of the Faculty of Architecture was assumed by Franciszek Otto, who was a graduate of the Mechanical Faculty of the Lviv Polytechnic and ser-

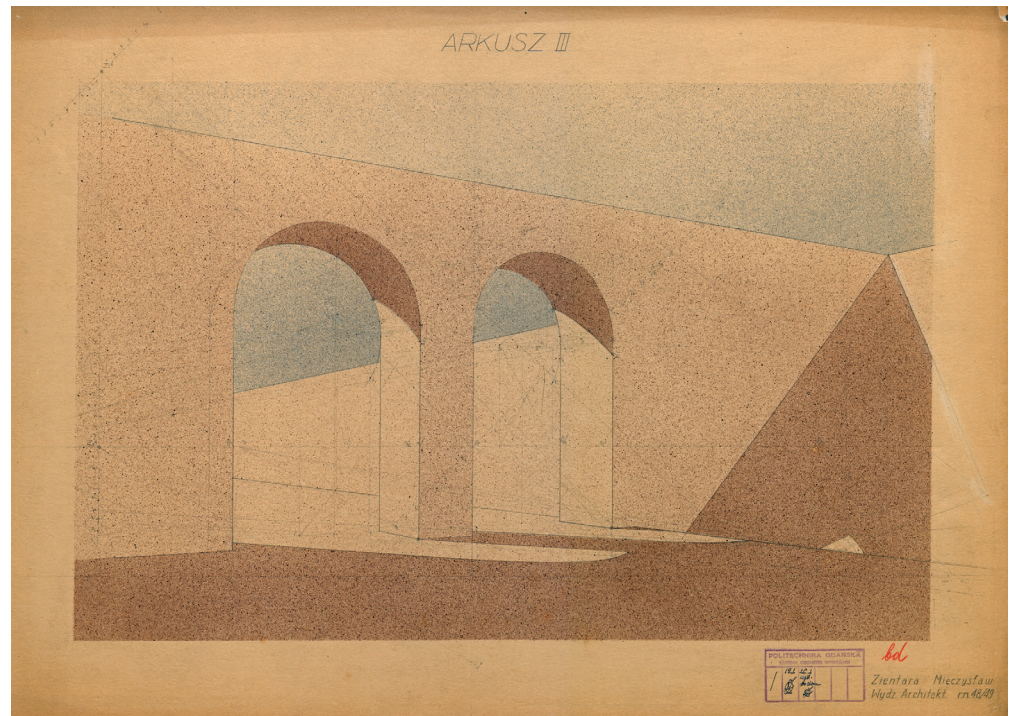












ved as an assistant in the Department of Descriptive Geometry, led by Prof. Kazimierz Bartel, until 1941.

The first three deans of the Faculty of Architecture at the Gdańsk University of Technology after its transformation into a Polish institution – a painter Władysław Lam, a historian of architecture Marian Osiński, and a descriptive geometry lecturer Franciszek Otto, had a profound impact on the method of teaching architectural drawing at the faculty, with consequences that continue to this day.

In 1945, Władysław Lam became the head of the newly established Department of Drawing, Painting, and Sculpture. The educational objective of this department was not merely to practice architectural representation but to stimulate creative imagination, shape sensitivity to space, color, and form while freeing students from the mechanical reproduction of drawings. Thus, Professor Lam fulfilled the demands of Lviv Polytechnic students from the early 20th century, advocating for a shift towards a more artistic direction in education.

While these demands were not met in Lviv, they significantly influenced what occurred at the Gdańsk University of Technology and what continues today, 120 years later. The approach to educating architects, as developed by Lam and continued by his successors, has oc-

asionally faced criticism. It was argued that the Department of Drawing, Painting, and Sculpture “distorts architects by treating them as future painters”, suggesting a perceived overemphasis on artistic skills at the expense of technical and practical architectural training.

Indeed, if treated as a valid criticism, the claim that the Department of Drawing, Painting, and Sculpture “distorts architects” holds some merit. Władysław Lam educated prominent painters who chose this profession after completing their architectural studies, such as Aleksander Kobzdej and Kazimierz Śramkiewicz. Lam’s successors in the department continued his educational tradition. This influence was particularly evident in the 1980s, when many students from the Faculty of Architecture at the Gdańsk University of Technology pursued careers as painters and graphic artists. Among them are distinguished creators like Jarosław Fliciński and Maciej Sieńkowski.

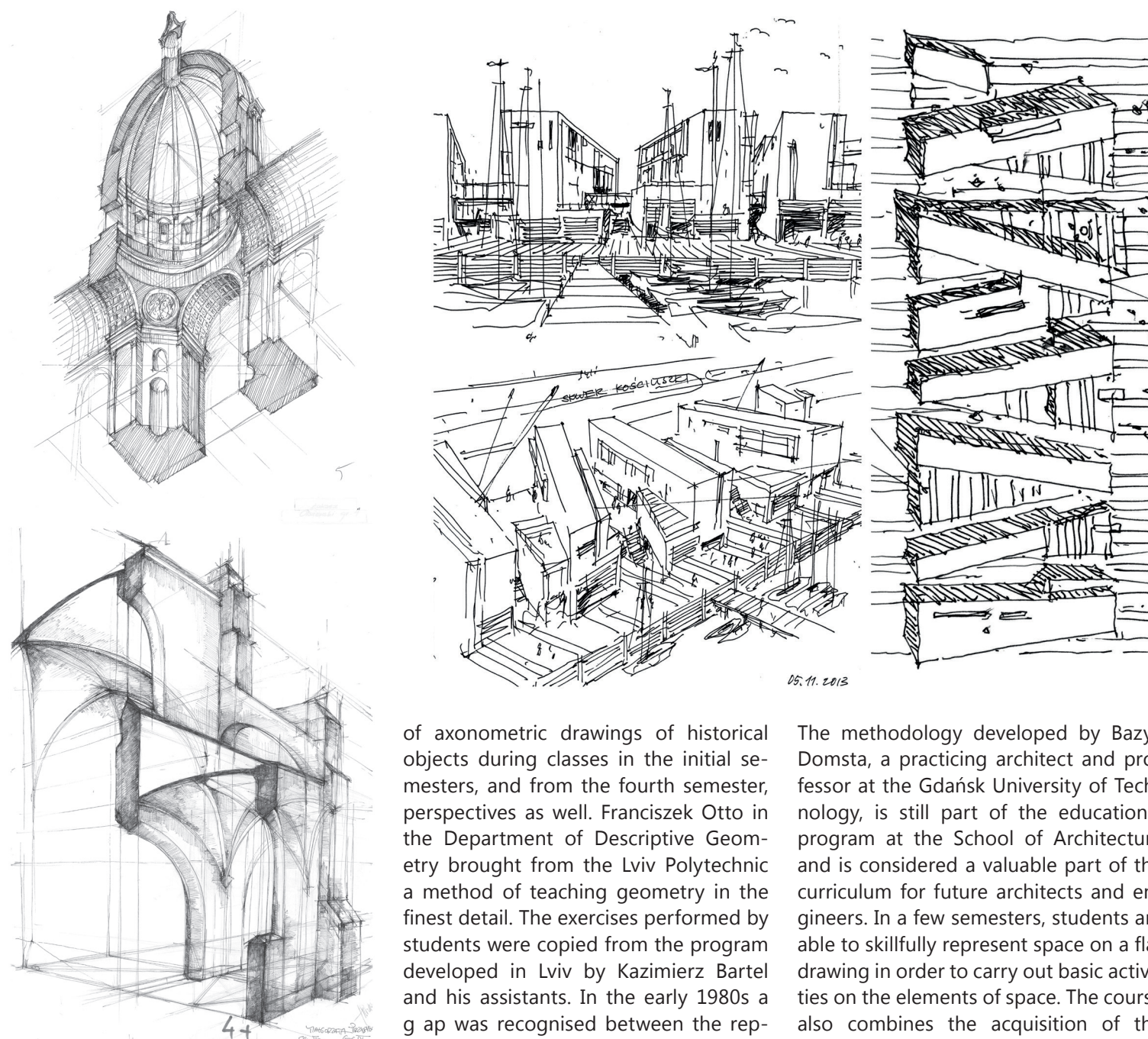
Professor Marian Osiński, dean of the Faculty of Architecture at Gdańsk University of Technology from 1945 to 1952, transferred from Lviv the tradition of teaching the history of architecture through drawing.

This practice has been perpetuated up to the present, involving the creation of sketchbooks as well as the execution

18 | Side page. Exercise in descriptive geometry, student Gustaw Błahut, 1931/1932, Lviv Polytechnic, Faculty of Architecture.

19 | Exercise in descriptive geometry, student Mieczysław Zientara, 1947/1948, Gdańsk University of Technology, Faculty of Architecture.





20 | *St. Peter Basilica in Rome, exercise in the history of universal architecture, student Łukasz Olszewski, Gdańsk University of Technology, Faculty of Architecture.*

21 | *Construction of a Gothic church, exercise in the history of Polish architecture, student Magdalena Przybyła, Gdańsk University of Technology, Faculty of Architecture.*

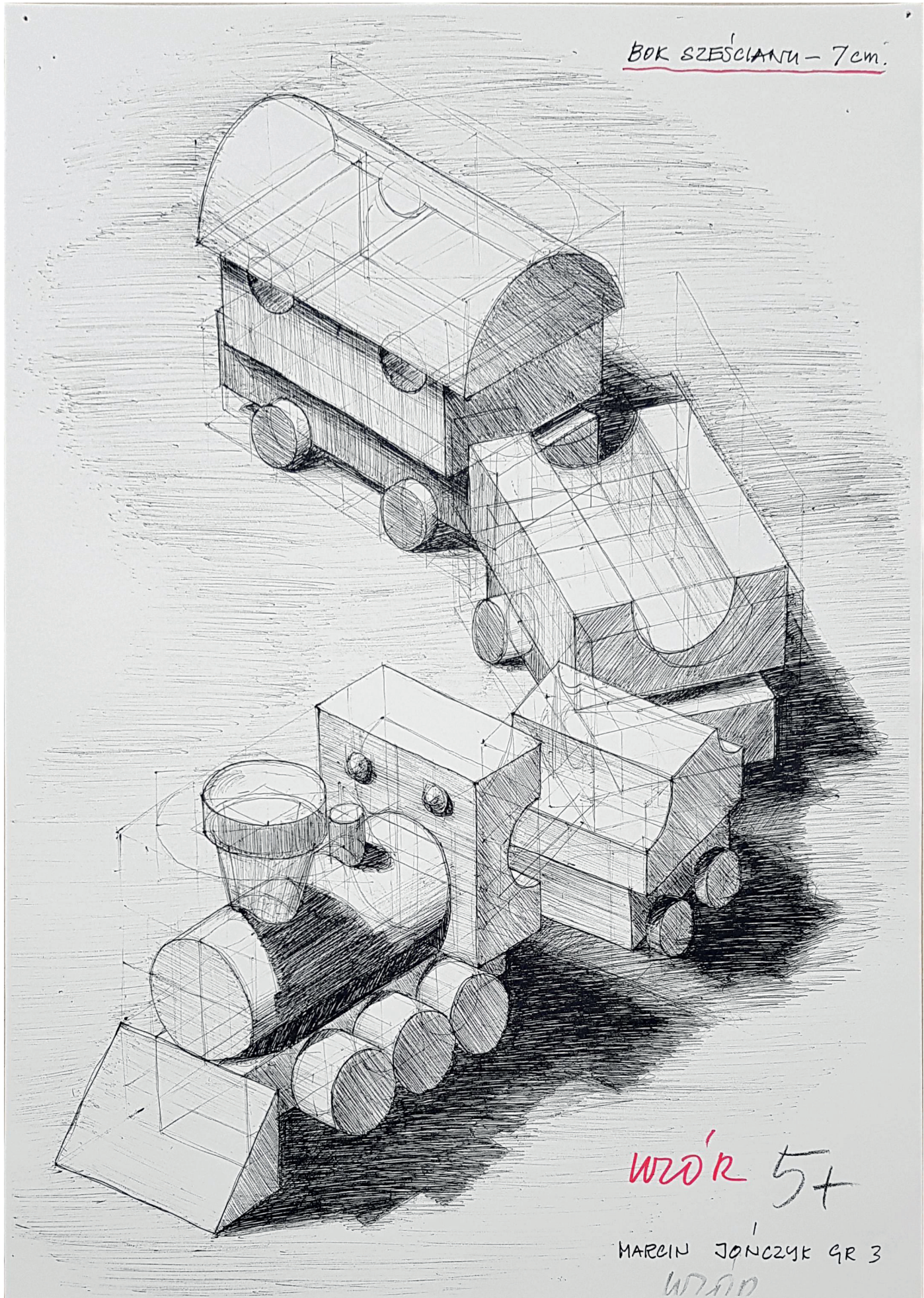
22 | *Piers in the port of Gdynia, ink drawing, Bazyli Domsta, 2013. Gdańsk University of Technology, Faculty of Architecture.*

23 | *Side page. Axonometric drawing - composition of complex elements, students work, an example of an exercise in Architectural Drawing subject, Gdańsk University of Technology, Faculty of Architecture.*

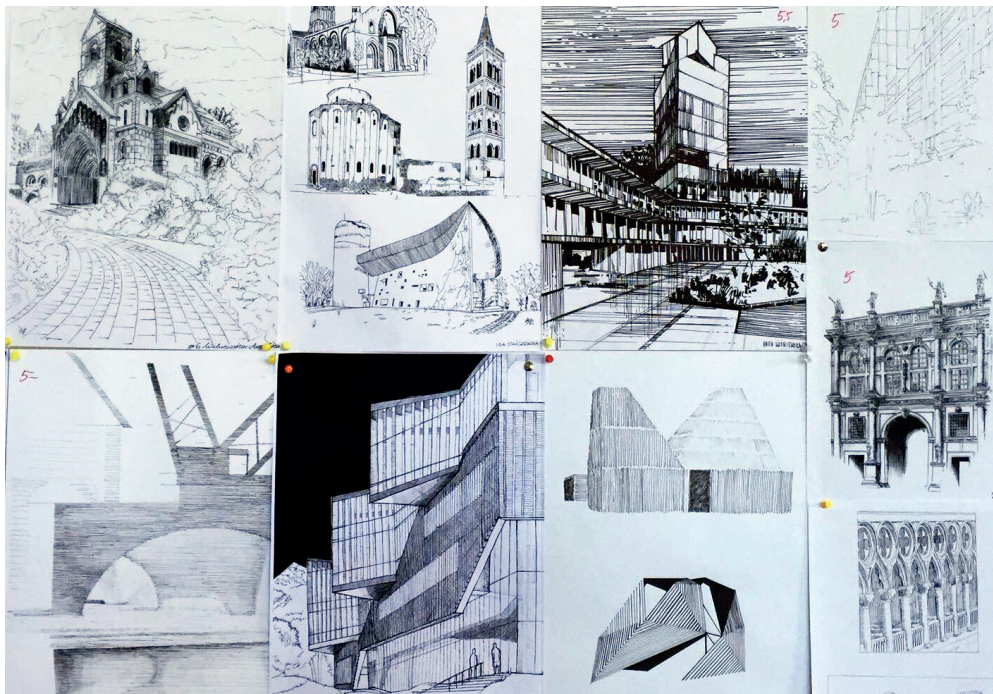
of axonometric drawings of historical objects during classes in the initial semesters, and from the fourth semester, perspectives as well. Franciszek Otto in the Department of Descriptive Geometry brought from the Lviv Polytechnic a method of teaching geometry in the finest detail. The exercises performed by students were copied from the program developed in Lviv by Kazimierz Bartel and his assistants. In the early 1980s a gap was recognised between the representation and the methodology of drawing. Artistic drawing, which focused on artistic values alone, was not sufficiently constructive, while the elements of descriptive geometry required a very technical approach. By combining selected elements of both approaches and simplifying the construction methods of descriptive geometry, it has been possible to create a training course that bridges this gap and brings drawing closer to the concept of architectural drawing. The new course has been designed with the goal for developing freehand drawing skills of future architects. The course has been carried out with spectacular results over the last 40 years and is constantly evaluated.

The methodology developed by Bazyli Domsta, a practicing architect and professor at the Gdańsk University of Technology, is still part of the educational program at the School of Architecture and is considered a valuable part of the curriculum for future architects and engineers. In a few semesters, students are able to skillfully represent space on a flat drawing in order to carry out basic activities on the elements of space. The course also combines the acquisition of the ability to efficiently use an axonometric and perspective drawing efficiently with practice in composition and graphics. All drawings are made according to an established methodology, starting with graphic techniques, drawing and construction of basic solids in axonometry, moving on to complex perspective representations and drawing in the open air. In time, the drawing course will include elements of graphics using digital tools and the possibilities of developing information technology. At present, the architectural drawing course combines various forms of representation using digital tools and in cooperation with the experience of international partners.



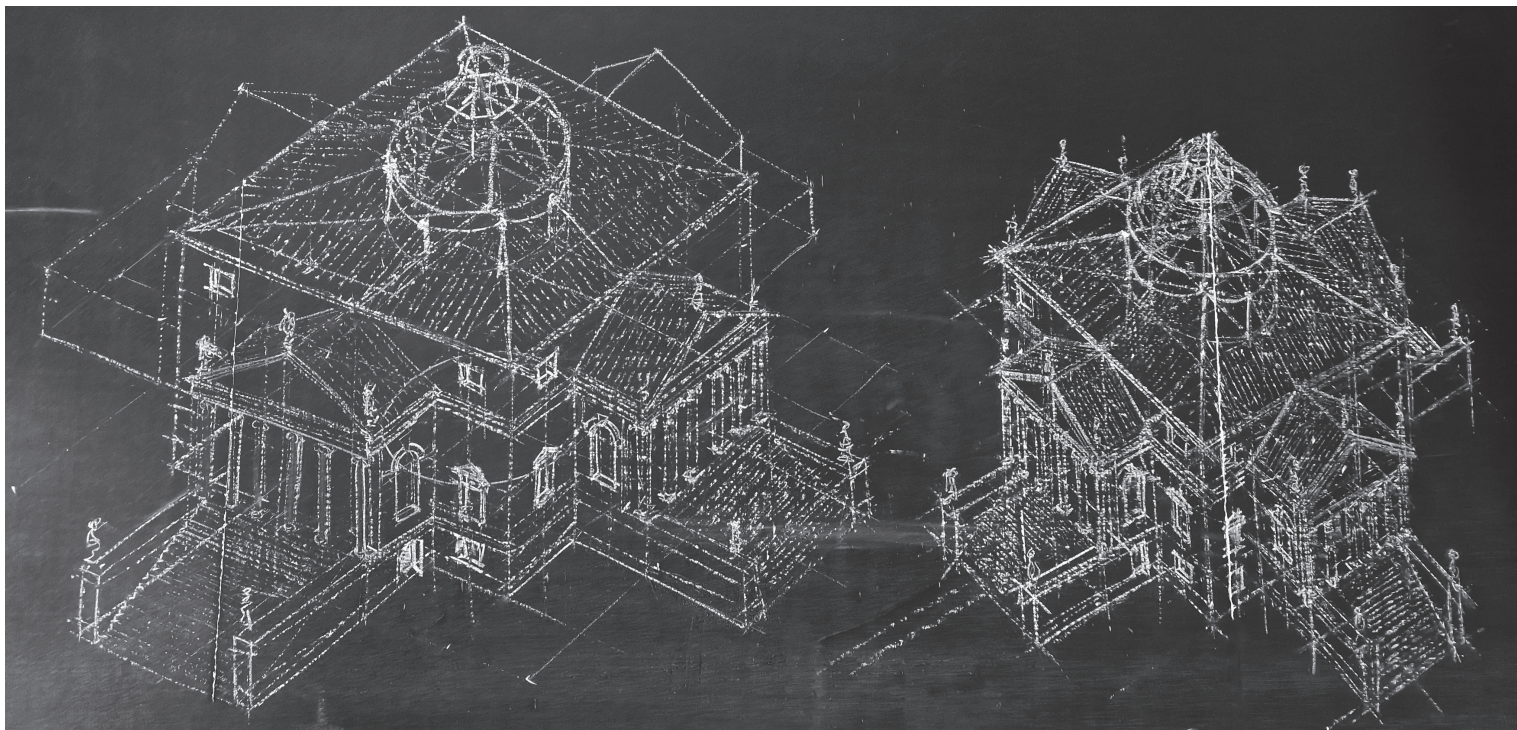




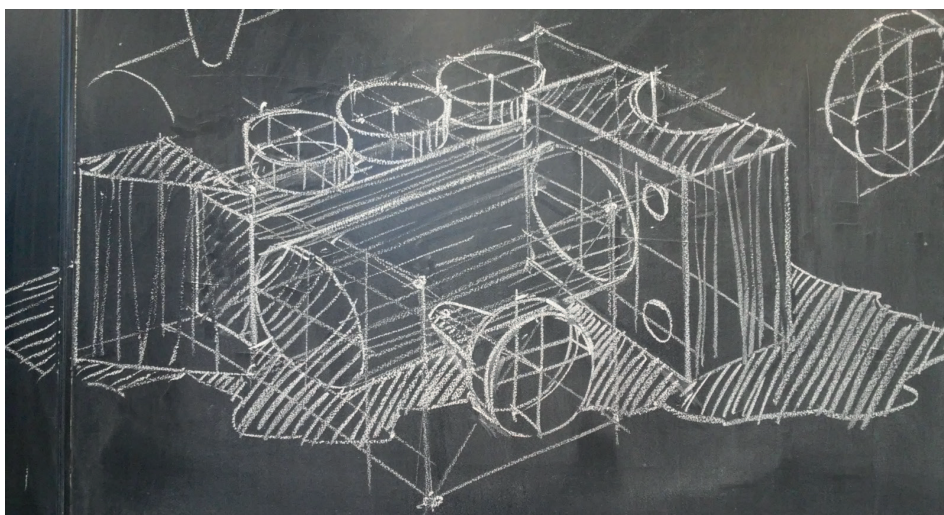


24 | Axonometric drawing - composition of complex elements, students work, an example of an exercise in Architectural Drawing subject, Gdańsk University of Technology, Faculty of Architecture

25 | Study of greenery drawing, students work, an example of an exercise in Architectural Drawing subject, Gdańsk University of Technology, Faculty of Architecture.



26 | Andrea Palladio, Villa Rotonda, chalk drawing on a blackboard, Bartosz Macikowski, 2024, Gdańsk University of Technology, Faculty of Architecture.



27 | Axonometric drawing, composition of complex elements, an example of an exercise in, Architectural Drawing subject, chalk drawing on a blackboard, Bazyli Domsta, 2022, Gdańsk University of Technology, Faculty of Architecture.



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