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## HISTORY AND PRESENT OF ARCHITECTURAL DRAWING TEACHING IN KRAKOW

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*This paper presents the nearly eight decades of activity of the Chair of Drawing, Painting and Sculpture of the Faculty of Architecture at the Cracow University of Technology. It is one of the oldest teaching bodies of its kind in Poland. Its history and contemporaneity are linked to Krakow, a city of cultural, academic and artistic significance in Poland. Over the years, the department's name, its research and teaching profile have evolved, although the continuation of the curriculum and the achievements of successive masters and teachers has always been important. Initially, the curriculum included the study of drawing, painting and model-making, but was always dedicated to architects. In later years, teaching was redirected to the needs of the future architect's professional skillset, and served defining intent, communicating and imaging designs using various tools, including contemporary ones.*

**Keywords:** *Drawing, Teaching, Architecture, Technical university, Krakow.*

### Prologue

In the modern world, freehand drawing is no longer a necessity or an essential skill to an architect, and it is perfectly possible to practice the profession without it. Rather, it is a privilege and a gift for those who can cultivate this exclusive form of expression. The line, with all the wealth of forms it takes, can narrate and describe both reality and designs, visions or intentions. It has substantive and informative value, it is a record of thoughts, a document, but it also attracts the observers attention towards itself, for it can be beautiful and can be a work of art. It is as durable as the material on which it was drawn.

Looking at architects who treat drawing as an important manner of communicating their intention, recalling, in this respect, the achievements of old masters,

one can come to the conclusion that the manual communication of one's intentions, ideas and feelings is an effective and efficient way of working, as well as expressing one's experiences. Architects have always drawn, they continue to draw and it seems to be an activity immanent to their profession, which often also enters their private lives.

### Timeless message

In Milan, the Ambrosian Library houses the *Codex Atlanticus*, one of the largest collections of Leonardo da Vinci's own handwritten notes on matters of art. It is illustrated with sketches in which phenomenal lines and dashes create drawings that in fact are very small in scale but still manage to enchant us with their brilliant perfection<sup>1</sup>. Sometimes they are also the designs of new shapes, forms, includ-

<sup>1</sup> Rzepinska, *Leonardo da Vinci «Traktat o malarstwie»*.

ing the drawings of technical inventions such as catapults, cranes and lifts. Among them is a drawing of a single-span bridge planned to cross the Golden Horn in Constantinople from 1502.

In addition to the unique character of the synthetic lines, it has an informative value that is legible even after 500 years. The message the drawing contains allowed the idea to be recreated in 2001 as a pedestrian bridge over a highway connecting Oslo and Stockholm. The project implemented Leonardo's visionary design, combining Renaissance versatility and ingenuity with contemporary engineering potential and, above all, proved the value of the drawing as a timeless method of communication between inventors, civil engineers and architects. This form of recording ideas, despite the apparent impermanence of paper, has remained clear and comprehensible, and became a universal document in which the synthetic graphics of manual lines have remained legible in every era<sup>2</sup>.

### Architectural Graphics

The history of the origins of architectural graphics and its use in teaching can be traced back to Accademia di San Luca (Academy of St Luke) in Rome, founded in 1577, where, from the beginning, drawing was the primary means of expression. Key views on drawing with reference to the architect's professional skillset were presented by Federico Zuccari. He introduced the terms: internal drawing, which was a type of idea or conceptual proposal, and the external drawing, which was the graphical representation of this idea. The role of drawing in the architect's skillset was particularly emphasised by Giovanni Bottari. His views had a significant influence on the formation of academic teaching at the Academy of St Luke in Rome. Bottari believed that an architect should master drawing better than others, because then he would better execute the layout of residential spaces, staircases, workshops, courtyards and other parts of a palace<sup>3</sup>. Over time, the Academy became a model for architectural education in Europe. When we consider the teaching principles employed at the Academy, starting with the 17th century and end-



ing with the present, we can conclude that drawing has always been seen as having special significance. Afterwards, for many decades, both in architecture schools and art academies, manual drawing was an essential form of teaching<sup>4</sup>.

### Architecture Schools in Krakow

The history of teaching architecture in Poland was traditionally initiated by the medieval construction guilds, while the first ideas for the foundation of a knightly school and the establishment of an architectural school appeared in the 17th century. However, it was not until 1834 that the Technical Institute was founded in Krakow, the first to feature an architecture programme to also include drawing classes. This school provided general and vocational training in engineering, printing and art.

<sup>1</sup> | *Wawel Castle, portal (crayon). Eugeniusz Wolski, year 1, sem. 2, academic year 1948/1949. Archives of the Chair of Drawing, Painting and Sculpture, CUT FoA.*

<sup>2</sup> | *Hall, Leonardo, if You Could Only Have Lived to See This Day.*

<sup>3</sup> | *Białkiewicz, Rola rysunku w warsztacie architekta. Szkoła krakowska w kontekście dokonań wybranych uczelni europejskich i polskich, Wydawnictwo Politechniki Krakowskiej.*

<sup>4</sup> | *Ibid.*

In the course of its more than a century of operation, the Institute underwent significant changes; nevertheless, it made a significant mark in the history of architecture teaching in Krakow<sup>5</sup>. At the beginning of the 20th century, decisions were made to establish an architectural university in Krakow and in 1913 an architecture programme was established at the Academy of Fine Arts in Krakow. According to the Academy's 1922 statutes, two faculties were created: the Faculty of Painting and Sculpture and the Faculty of Architecture. Students of this second faculty, upon graduation, were awarded the title of qualified architect. In 1929, the Faculty of Architecture was shut down.

The curriculum of the Faculty of Architecture at the Academy of Fine Arts in Krakow was to some extent modelled on the existing faculties at the Warsaw or Lviv universities of technology, which had already established faculties of architecture. The history of the Warsaw University of Technology dates back to the 19th century. The year 1826 is seen as the year of its founding, as this was when the Engineering Studies Preparatory School was opened. The Faculty of Architecture itself, one of the oldest faculties at the Warsaw University of Technology, was established in 1915 as the first modern architectural university in Poland. The history of the Lviv Polytechnic University, on the other hand, dates back to the mid-19th century, to the Technical Academy that was founded at the time in this city. In 1921, it was transformed into the Lviv Polytechnic with a Faculty of Architecture, which went on to become highly esteemed and not exclusively in Lviv. One major achievement of this faculty's graduates was the use of regional building traditions, enriched by themes from innovative European trends, which greatly influenced the architectural image of Lviv that was already becoming visible from the second half of the 19th century.

Poland's complicated history and convoluted geopolitical situation, contributed to the formation in the second half of the 19th century in Krakow of a distinctive, syncretic creative community and an architecture with highly distinctive features, derided as provincial by many

critics, but certainly not lacking in original artistic characteristics. The specificity of architectural training in Krakow was also important and made its mark in the history of education. It is worth mentioning this specificity, as it was making its mark since the beginning of the faculty of architecture. It resulted, on the one hand, from susceptibility to the imposing atmosphere of the city and the local cultural heritage, and, on the other hand, from the personality of the academics who implemented a broad curriculum in the training of future architects. Attention was drawn to the importance of artistic education, especially the teaching of drawing. As early as 1908, in the pages of *Architekt*, Waclaw Krzyzanowski wrote: «One of the most important means of educating an architect is the teaching of drawing»<sup>6</sup>.

In 1934, a division was noted between two types of education in Poland, called the Polish schools of architecture: the Krakow school, characterised by picturesque and decorative solutions, and the Warsaw school, characterised by rationalism and technical, technological progress<sup>7</sup>. Since then, the discussion on this perceived divide has repeatedly reemerged, also with regard to the teaching implemented in the architecture faculties of both cities. Among others, also in 1983, a number of opinions and articles characterising the teaching of artistic disciplines were published in the journal *Architektura*. At the time, Wojciech Kosinski continued to point out that the Krakow school, which until recently had been teaching mainly visual artists, had created a graphical style that was more painterly, more powerful, heavier, denser, less concerned with structure and more concerned with impression<sup>8</sup>.

### Chair of Drawing at the Faculty of Architecture in Krakow

In Krakow, after the end of the war in 1945, the Faculty of Architecture was established as part of the Polytechnic Faculties at the Mining Academy. Up to 1948, the Faculty's headquarters were located at the Wawel Royal Castle. One of the department's twelve chairs was the Chair of Freehand Drawing, founded

<sup>5</sup> Bialkiewicz, *Drawing classes at the Faculty of Architecture in Krakow. O rysunku na Wydziale Architektury w Krakowie*, pp. 23-35.

<sup>6</sup> Krzyzanowski, *O nauce architektury*, pp. 3-4.

<sup>7</sup> Niemojewski, *Dwie szkoły polskiej architektury nowoczesnej*, pp. 808-816.

<sup>8</sup> Kosiński, *Krakowska szkoła architektury*, in *Architektura*, pp. 30-33.

and headed by painter Professor Ludomir Slendzinski, who was also the first rector of the Cracow University of Technology. The first freehand drawing classes began in December 1945, with three years of students. Two years later, the Chair of Model-making was established within the Faculty.

The staff of the Faculty were painters and only one architect<sup>9</sup>. «The programme of work in years one and two was dominated by drawings from nature. The themes were geometric solids, furniture and architectural details. A common exercise was to draw the same model a second time, from memory, from a different perspective than the drawing made previously from nature. In addition, interiors were drawn. The curriculum for year two is the study of the interior of a lecture hall, and in the following years the interiors of Krakow's churches. The subjects of the studio drawings and sketches were classical heads, compositions from Wawel heads and a study of the head of a living model. During year three, the head was drawn in study and sketch, nude, portrait and buildings and ornament. In the academic year 1945/1946, classes in freehand drawing were also in year four. From 1947 onwards, graphics and the watercolour technique appeared in year three»<sup>10</sup>.

In 1948, the Faculty of Architecture was moved to buildings at 24 Warszawska Street, the present headquarters of the university, and in 1954, as part of the reorganisation of the Cracow University of Technology, its name was changed for the first time to the Chair of Drawing and Sculpture, which was later revised several times. At the same time, the number of teaching hours in drawing for all years of study was increased<sup>11</sup>.

The curriculum included, among others, studies of the interiors of the Wawel Royal Castle and the Słowacki Theatre. Other subjects included church architecture, portraits and nudes. It was also during this period that an emphasis was placed on learning the basic principles of the drawing skillset and exploring different techniques of expression. One of the great personalities heading the Chair from 1960 to 1974 was Krystyna Wroblewska, an outstanding visual artist and highly respected teacher. This was a pe-

riod when drawing was taught during all years from the first year up to the fifth year. During her tenure, the curriculum and teaching methods were essentially a continuation from previous years, with a tendency to adapt them to the changing needs of the architecture student. Issues of form, proportion, structure, perspective, light and space were enhanced with a varied range of painting techniques. The essence of the problem was, most importantly, to bring out the character of the form or interior under study, using an appropriately chosen painting technique. It was at this time that the Academic Club, founded in the academic year 1955/1956 on the initiative of professor K. Wroblewska, was established and was very active in the 1960s. This was due to the fact that some students showed more interest in drawing, painting or sculpture than the course classes could satisfy. It is worth mentioning here that the club continues to operate with significant intensity, although the interests of students change and a different curriculum is also proposed.

Another prominent figure heading the team in the years 1982–2000 was Professor Jan Bruzda. At that time, the curriculum evolved considerably towards an education dedicated even more to architects.

In his opinion, «teaching drawing and related issues to architecture students should be considered against the background of an architect's profile. Architecture is an art that relates to space and the human environment, while the architect's work method puts composition on a plane at the forefront. Hence, the relationship between the space and the plane is a fundamental problem in architectural education. Extracting the key points of this relationship sets the directions for teaching drawing from the formal side. [...] The simultaneous development of inventiveness and proficiency, of intellectual and manual aptitude, must be observed in the teaching of drawing. One cannot stop at issuing derivative topics only. It is essential to create situations in which drawing becomes a means of conceptual work. Teaching drawing as a specific medium is combined with easing into its use.

The key is to achieve a proficiency that leads to complete mastery so that the

<sup>9</sup> Bialkiewicz, *Drawing classes at the Faculty of Architecture in Krakow*, cit., pp. 23-35.

<sup>10</sup> History of Chair of Drawing and Sculpture; Division of Drawing, Painting and Sculpture; Independent Division of Drawing, Painting and Sculpture at the Faculty of Architecture, this document is held in the Archives of the Chair of Drawing, Painting and Sculpture, FoA of the Cracow University of Technology, 2, 3.

<sup>11</sup> *Ibidem*.

drawing is indeed the mode of expression of the future architect<sup>12</sup>».

In the following years, an architectural drawing course was introduced in which the assignments were focused on issues relating to broadly understood essential architectural drawing while also facilitating the ability to use perspective drawing. The aim was to support future designers' skillsets in the efficient use of this form of graphical expression in terms of the need to document one's own visions and creative reflections, and as a language for communicating with the various people involved in the design and construction process. At the same time, the study of painting continued in the senior years with regard to issues concerning colour compositions directly applicable to architecture. Colour schemes for interiors, building facades, and larger architectural complexes were developed.

A curriculum emerged with a focus on:

- developing general artistic ability, broadening the practical and intellectual experience of architecture students;

- training problem-solving associated with essential tasks with the use of appropriate graphical means<sup>13</sup>.

Practical training in drawing has complemented the curriculum for many years. It featured studies and sketches in tempera, watercolour, crayon, pencil and ink techniques. The subjects were architecture, greenery and landscapes. Initially conducted off-site training, it was later changed to an open-air workshop held in Krakow. Architecture and the suburban landscape became the subjects of the works produced.

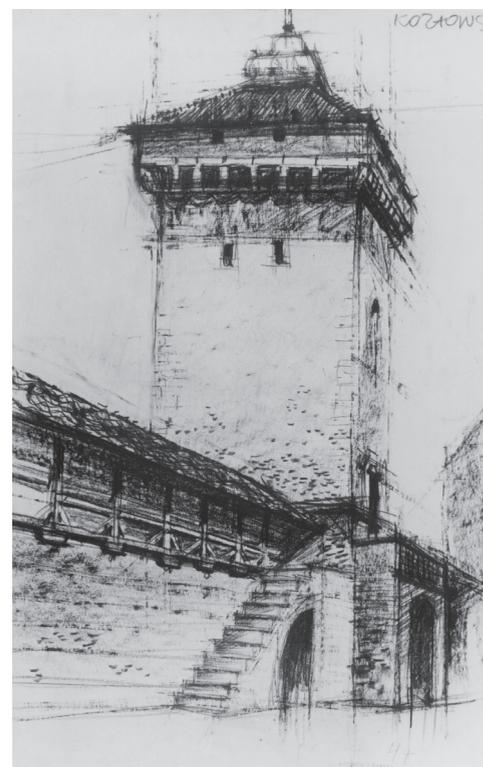
The year 2000 proved to be the start of another breakthrough for the Chair. Professor Andrzej Bialkiewicz, another architect, took over as its head. And although the curriculum did not fundamentally change, there was a further slow shift away from training towards painting, colour and issues that are assumed to broaden the artistic perception of reality. The expectations of students oriented towards learning issues related to the architect's skillset and the drawing that constitutes its language also changed.

In essence, it can be stated that over the following years, a modified profile of teaching drawing, painting and sculpture

at the Faculty of Architecture in Krakow emerged, which on the one hand was to a large extent the result of the teaching experience shaped from the very beginning of the Chair's establishment, and on the other hand is the result of the evolution towards professional drawing that architects use to define their intentions, communicate and depict designs using modern tools such as computers, scanners and 3D printers. This type of drawing is more oriented towards the needs of the future architect's skillset. The principles of its teaching reflect a certain compromise between traditional education and the current reality with its amenities and requirements. Compared to the curricula of Polish faculties of architecture, which are part of technical and artistic universities, Krakow continues to feature drawing in its curriculum in an extended scope.

### Conference: Architecture, Drawing, Didactics

Exploring the world and travelling to distant places is all the more beautiful the more one is proficient at communicating with their inhabitants. The lack of such direct contact creates barriers to fully knowing and understanding the culture and achievements of other nations. Knowledge of languages among architects can be compared with their shared and widespread mode of communication – the drawing. It is drawing that is the primary language of their understanding, their form of expression. The imagination suggests architectural shapes, masses that are either in imaginary surroundings or resemble real, concrete spaces. The architect shapes space, organises it and therefore cannot be indifferent to its natural qualities, whether in the open, natural landscape or in the cultural landscape, especially the urban one. The International Conference in the series Teaching Drawing, Painting and Sculpture to Architects, organised by the staff of the Chair of Drawing, Painting and Sculpture of the Faculty of Architecture of the Cracow University of Technology, which took place in May 2015, was devoted these issues. It was a grand assembly of architects from all over the world, from many universities and those who work in design on a daily basis.



2 | Florian Gate (crayon). Dariusz Kozłowski, year 2, sem. 4, academic year 1961/62. Archives of the Chair of Drawing, Painting and Sculpture, CUT FoA.

<sup>12</sup> Bruzda, Jan Bruzda - Kraków.

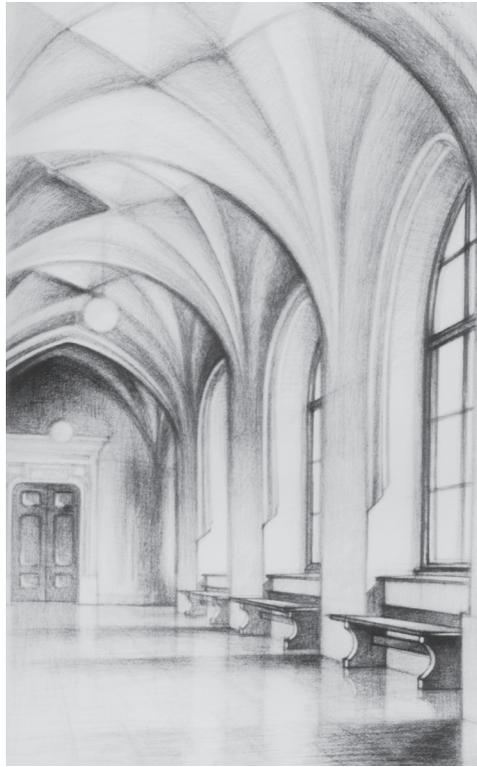
<sup>13</sup> Syllabus developed in 1999, in the Independent Chair of Drawing, Painting and Sculpture, for: The Royal Institute of British Architects; this document is held in the Archives of the Chair.



3 | Study of an urban interior based on documentation (ink). Wojciech Kozub, year 2, sem.4, academic year 1990/1991. Archives of the Chair of Drawing, Painting and Sculpture, CUT FoA.

4 | Study of the interior of the Collegium Novum (pencil). Bartłomiej Tomkowicz, year 1, sem. 2, academic year 2002/2003. Archives of the Chair of Drawing, Painting and Sculpture, CUT FoA.

5 | Originator of the International Conference on the Teaching of Drawing, Painting and Sculpture to Architects, Professor Andrzej Białkiewicz. Photo by Jan Zych.



### The Present and the Future

When one considers the scale of change that is taking place in teaching architecture students, one should also note essential transformation in freehand drawing. It is all the more visible because it is broadened by the students' ability to select and evaluate quantitative and qualitative learning. The freedom to choose courses and the affirmation of contemporary graphical means often encourages preference for fashionable imaging techniques, often coupled with opting not to master previous technique-related skills. In actuality, methods of working in the production of images of the proposed architecture and its presentation are highly diverse and dependent on the clients' preferences. Hence, the question of the role and importance of methods of illustrating the design process. Until now, architectural design documentation has been a set of drawings containing information about the future building and often a mock-up. This record is now being replaced by a three-dimensional digital model containing all possible information about the designer's intentions and physical models have also been replaced by digital renderings. This form of messaging represents a future work, and acts as the contemporary recordation model.

The confrontation of experiences and ideas with regard to the creation of images of architecture seems to have helped to consolidate the reality of the contemporary teaching of drawing and its perspectives.

On the occasion of this meeting, two significant exhibitions were organised to present the achievements and contemporary teaching of freehand drawing at the Faculty in Krakow.

Expositions were presented showing, on the one hand, the rank and significance of architectural drawing and, on the other, showcasing the students' work as excellent works of art by outstanding artists.

As history is made by individuals, it can also be derived from the personalities of the teachers who have led the chair over the years, although continuity has always been the prevailing principle, one that has established continuity and testifies to the university's traditions. Nevertheless, the direction of education is certainly given by the master, the teacher, and their creative personality has the power to influence the teaching process. It should therefore be noted at this point that it is difficult to note all the significant teachers here. Certainly, their artistic talent and love of drawing or painting had a significant impact on the teaching of the chair<sup>14</sup>.

<sup>14</sup> Gologorska Professors and students. Teaching Freehand Drawings in the year 1945-1982. The Faculty of Architecture, Cracow University of Technology.

“ *It has always been known that architects do not create architecture, but only its vision and its image presented on paper in the form of a drawing or a graphic work created in any technique.* ”

Nevertheless, by using digital media, the resulting engineering graphics appear to be encoded and readable primarily by professionals. At the same time, there is a possibility that such a visual message may, to a stakeholder, represent only an interpretation of the idea and its reception will not always be the same as the architect's intention. In this context, the ability to develop high-quality architectural images that are credible and convincing, while also having visual appeal, is a highly desirable and relevant skill. In turn, the task of teachers is to include in the curriculum methods of illustrating the design process using digital media, drawings and traditional model-making. Preparing to create the most diverse representations of architecture is therefore a subject included in the curriculum in the final semesters.

With regard to teaching, it is worth pointing out an important aspect of its current practice, namely that the average capabilities of students' computers, especially the software, should allow exercises and graphical tasks to be carried out off-campus. Therefore, the principle of using software that is available free of charge so that every student can receive equal access to it and so that software choice is not determined by licensing fees.

Access to software that allows the exploration of AI-driven graphical design is an important part of the course. Such software can allow us to take advantage of fascinating potential for artistic expression, in which creativity is induced by integrating artificial intelligence. It seems that the fusion of one's own artistic ingenuity and the availability of AI graphic design tools expands design potential and creative possibilities.

This enhancement of innovation by artificial intelligence, on the one hand, is formally impressive, and on the other, it allows innovation to be explored also in architecture.

It has always been known that architects do not create architecture, but only its vision and its image presented on paper in the form of a drawing or a graphic work created in any technique. Designers create a vision of the future and create ideas of non-existent buildings. Such an image is a vehicle of content and value, and the more it corresponds to the client's demand, the more effective and legible the record made by its author.

At present, in an era of ever-present competitiveness in all forms of activity in social life, the issue of the quality of images presenting the expected architecture also arises. With the emergence of additional new, often excellent digital tools for visualising creative intent, research has been undertaken into the implementation of increasingly effective graphic messages<sup>15</sup>. Often, a simple market game can impact the shaping of images that reach potential audiences. Methods of creating such illustrations concern not only the selection of the correct tools, but also profiling the message.

At present, the image of architecture as a vehicle for a specific idea can be presented using different digital tools, but also manual ones. In architecture faculties, thesis project supervisors decide the methods of forming the message. In fact, the choice of a particular visual language and the quality of the message achievable, thus the expected aesthetic qualities, is primarily determined by the audience.

<sup>15</sup> Cfr. K. Koszewski, *Obrazy Architektury. Reprezentacja Idei Architektonicznej w Kontekście Współczesnej Kultury Wizualnej and Stryk, Źródła Architektury Informacyjnej.*

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