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Review study

Reception of pictorial statistics in interwar Czechoslovakia

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The paper deals with the modern method of visual communication, which was created by Otto Neurath. Image statistics works with a simple and illustrative symbol as a schematic image. One of the prominent promoters of the integration of image statistics into art education was the advocate of utility drawing Vladimír Konvička, who understood visual literacy in its complexity and adapted art education to the practical needs of modern times.

Keywords: visual perception, image, statistics **,** symbol, art education

Introduction

The author of the modern method of visual communication called image statistics was Otto Neurath. This method of simple and easy to understand pictograms had its ancient predecessors in the form of pictorial characters of ancient nations (Manguel, 2007, p. 43). In modern history we find a parallel in the emphasis on visual clarity in the legacy of Comenius, to which *Orbis Pictus was* followed in the mid-19th century by Karel Slavoj Amerling with a comprehensive set of *Paintings for illustrative teaching* . Didactic school paintings have become common teaching aids. [1] With the technological development of the 21st century, visibility and visualization have gained new possibilities and forms. However, its foundations were laid in an effort to better and faster understand the modern world.

1 Visual Communication by Otto Neurath

The author of picture statistics was Austrian sociologist and philosopher Otto Neurath. In the 1920s, this method was intended to enable a rapid understanding of social phenomena going beyond the borders of individual countries, but also of education levels. Neurath defined contemporary society as a structured whole preferring the perception of the image over the understanding of the text. He considered his method as a means of "visual education". He was convinced that the world can be recognized by immediate visual perceptions, because images speak to the eye and brain at the same time. [2]

Neurath's theory was based on the so-called New Vision [3] and new means of visual communication, especially the development of photography and film. In 1928 Neurath described the basic element of information transmission: a simple, understandable and illustrative symbol, a schematic image, today's terminology pictogram. In cooperation with the Dutch graphic designer Gerd Arntz, he prepared illustrations of presentations of social phenomena presented in the form of statistical data. [4] Neurath understood his method as a kind of image pedagogy and sought to spread it in schools. Efforts to overcome visual perception over text were also popularized in the mid-1930s by the magazine *Pestrý týden*. This social magazine was not only characterized by the prevalence of photographic news, but it also inspired a movement for visual art education that dealt with its promotion in the form of exhibitions in Czech and Moravian cities. Inspirational influences of image pedagogy can be found in amateur and professional work, in didactic paintings by Božena Havlová and in the work of designer Ladislav Sutnar, who made the amount of textual information more transparent by inserting graphic schemes and pictograms. Image pedagogy applied in education in the form of image statistics was not intended to be a self-contained content of drawing lessons, but a suitable complement especially in history, geography and physics lessons.

1.1 Isotype

The method of image statistics has gradually evolved into an image language called *ISOTYPE* (acronym from the words of the International System of TYpographic Picture Education). *Isotype* was developed for the needs of the Vienna *Sociological and Economic Museum*, which was led by Neurath since 1924. Using this pictorial language, which contains around 1000 pictograms, visitors to the museum were particularly acquainted with the history and present of Vienna. In addition to statistical images, the museum also worked with maps, plastic models of houses and included an archive for image pedagogy. The political situation of the early 1930s led Neurath and his colleagues into exile, first to the Institute for the Visual Representation of Static Data in Moscow, then to The Hague, Holland, where the International Foundation for Visual Education was established in 1933.

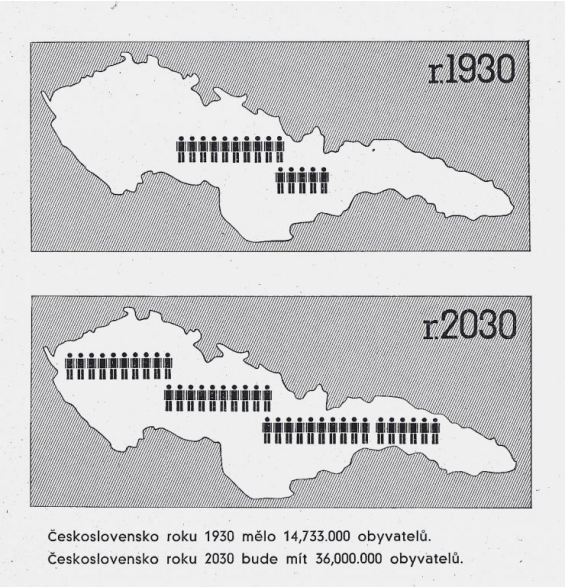
2 Art education reform in interwar Czechoslovakia

In Czechoslovakia, the method of image statistics was linked to the pursuit of school reform, which was adopted in 1928. Proponents of reform art education were inspired by the ideas of American pragmatic pedagogy and Bauhaus pedagogy. The concept of art education was divided into two directions, technical and psychological, while advocates of technical direction were predominant. There was also an attempt at a compromise tendency, represented by Vladimír Konvička. [5]One of the possible ways of meaningful combination of practicality and individualization was the involvement of the method of image statistics in education. The International Congress for Drawing and Applied Arts was a manifestation of the reformed art education, accompanied by a large exhibition that took place in Prague's Industrial Palace in the summer of 1928. Its importance is evidenced by the

large number of responses in the interwar periodical press. Jaroslav Benda compares presentations of individual schools in the review of *Art* magazine , which is an interesting note about Bauhaus: " *From foreign exhibitions, the Bauhaus School of Dessava convinced itself of the authenticity and specialization of the new vocational studio. Their connection to this exhibition was externally in the form of borrowed ornaments... "*(Benda, 1929, p. 47) Benda confirms that the new constructive orientation of drawing was inspired by Bauhaus, but his evaluation also shows that Bauhas pedagogy was "the icing on the cake" and a difficult to transfer pattern. A similar commentary also appears on the pages of the magazine *Typografia* . For the reviewer of the exhibition, the Bauhaus exposition was a qualitative highlight of the whole exhibition: *"... The Dauau Bauhaus exposition was quite different with its experiments and their realization in terms of construction, form and material."* (Poskočil, 1928, p. 121) ***[6]***

2.1 Vladimír Konvička and image statistics

In the years 1928–1934, Vladimír Konvička worked at the Masaryk Experimental Differentiated School in Zlín. Between 1935 - 1945 he was the director of the newly established experimental school in Otrokovice. The initiator of the so-called experimental schools was Václav Příhoda, a prominent figure in the interwar reform education. Vladimír Konvička at the Zlín Experimental School reflected Příhoda's idea of a uniform, internally differentiated school in which pupils were divided according to their talents, interests and abilities. In accordance with contemporary functionalism, the teapot combined aesthetic feeling with the practical requirements of everyday life. During the 1930s he established himself as a theoretician and methodologist of art education. He became the author of several textbooks, see for example the *Work Program of Drawing for the 1st, 2nd and 3rd Years of the Secondary School* (1934);*New orientation in drawing at a secondary school* (1933) or *Assembly composition in school drawing* (1936). (Rýdl, 1998, p. 21) [7] Teapot was a propagator of progressive trends in art education. He emphasized the relationship of art education to real life and the requirements of education for practical life. His credit to the Czechoslovak interwar education also penetrated the picture statistics. He has included drawing [8] statistics as an organic part of his education in the Zlín experimental school program since 1931. He has already included a brief chapter on this method in his work *New Orientation of Drawing at the Secondary School* . In 1934 Teapot published the book *Picture Statistics in Drawing of Secondary Schools and Higher Primary Schools*, which in its graphic design was published by the Czechoslovak Graphic Union in Prague. Konvička published this publication with the intention not only to acquaint the professional public with pictorial statistics, but also to provide incentives to other teachers. The task of pictorial statistics at the secondary school was to convert statistical values into a graphic expression for which a schematic element was found and to choose the way the elements combine into a graphic unit (see Figure 1).



Giant. 1 Pažoutová, 1934. *Wine Harvest in 1930* , School Work, Zlín 1934. In: KONVIČKA, Vladimír. 1934. *Pictorial statistics in the drawing of secondary schools and upper-level general schools* . Prague: Czechoslovak Graphic Union.

In his publication, Vladimír Konvička explained in detail the general principles and concrete possibilities of imaging statistics and suggested five basic options for expressing statistical relationships. [9] In the characterization of the method, Teapot highlighted Augustin Tschinkel as its pioneer in Czechoslovakia. [10] Among contemporary foreign filmmakers, he most appreciated the results of the Moscow Statistical Office, which were available to Czech readers through the magazine *Land of the Soviets* . The focus of the book *Picture Statistics in Drawing of Secondary Schools and Higher* Primary *Schools* remains mainly in its pictorial part.

2.2 Czechoslovak draftsman

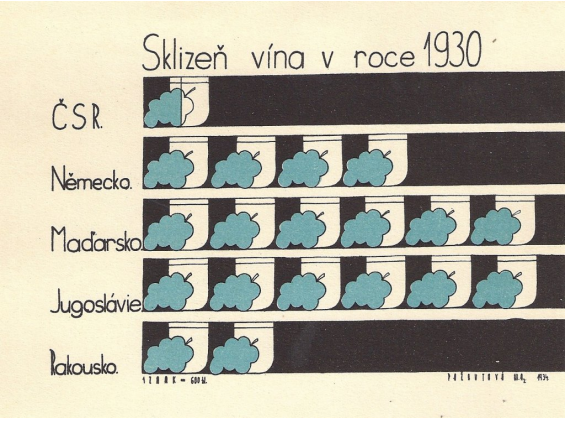
Vladimír Konvička influenced the professional public by lecturing, organizational and, above all, publishing as an editor of the monthly magazine for art education *Československý kreslík* . This magazine was the most important

periodical of the 1930s, where the pages of controversy about the form of modern art education took place. [11] In the second year (1933 - 1934), aesthetist Bohumil Markalous contributed an article *A few words to Konvička's work: A New Orientation of Drawing at a Secondary School*. Markalous was the editor-in-chief of the *Pestrý týden* social magazine and the editor of the Bytová *kultura* magazine , where he could apply his tasteful education requirements. Positive reviews of Konvička's books:*"Drawing is definitely put into the service of reality ... The draftsman must be a man of this real world ..., he must be a pioneer of civilization ..."* but brings a surprising conclusion. ***[12]*** (Markalous, 1933, p. 59) In 1935, a teapot in *Czechoslovak drawing artist* published a reportage from a study trip to the USSR *Art Education in the USSR* . He appreciated the possibility of free artistic education of talented children, the establishment of children's culture houses and the installation of a permanent exhibition of pupils' drawings at the Central Institute of Art Education in Moscow. He critically assessed the inadequate methodology of teaching and the level of contemporary Soviet art. [13] (Teapot, 1935, p. 12 - 14)*Educational profiles of the USSR* . Children's literature is considered to be the most developed area of the educational efforts of the USSR. In his contribution to the *Moscow Museum of Children's Books* , Konvičekʼs colleague Petr Denk describes one of the exhibits based on the principles of image statistics. On the moving diagram called *Five-Year Plan* , the visitors of the museum, based on given numerical data using wooden signs, made a clear overview of the economic production in the individual years of the Five-Year Plan. (Konvička, 1936, p. 85) A separate study of Soviet image statistics was published by Vladimír Konvička in *Czechoslovak drawing artist* in 1935. (Konvička, 1935, p. 36–39)

Due to the new state arrangement, the seventh edition of the magazine (1938 - 1939) was published under the name of *Czech Draftsman*. Konvičekʼs article *The evaluation aspects of art education* reflect the tense social atmosphere. The requirements of education for practical life are specified as necessary " *for daily bread, for life struggle...".* (Konvička, 1938, p. 58) In 1939, Vladimír Konvička became the chief editor of *Czech draftsman*. Under his influence, the eighth year of the magazine (1939 - 1940) received a new subtitle: *Monthly of Art and Technical Education* . In connection with the political facts accompanied by the introduction of new official curricula of all subjects of elementary and secondary schools in Bohemia and Moravia, Konvička published and critically evaluated*New outline curriculum for elementary and middle school.* (Konvička, 1939, p. 5 - 13) The period of the Protectorate naturally suppressed the possibilities of experiments of modernist-minded teachers.

2.3 Image statistics in the work of Augustin Tschinkel

Since 1936, the teapot mentioned Augustin Tschinkel worked as a teacher of professional drawing at the State Graphic School in Prague. The interest in modern pedagogical methods was inspired by its director Ladislav Sutnar. Sutnar realized his idea of visual education, among other things, through the publishing activities of the school, in which the students participated in their practical exercises. Tschinkel and Sutnar initiated prints of the State Graphic School using graphic method from 1933 to 1939. (Kapounová, 2009) The publications promoting "new vision", such as *Photography sees the surface* , *Little National History* and *Geographical Puzzles* , became the most popular. Tschinkel also used pictorial statistics, diagrams and maps in collaboration with the text author Jan Hostan in the book *Why You Are a Czechoslovakian,* published in 1938 by the State Publishing House in Prague. Picture statistics informed young readers about European nationalities, their population numbers now and their future prospects (see Figure 2).



Giant. 3 Tschinkel, Augustin. 1930-1938. *Visual statistics of population of Czechoslovakia 1930 - 2030* . In: HOSTAN, Jan. 1938. *Why are you Czechoslovak?* Praha: Státní nakladatelství.

The emphasis on visuality is evident in Tschinkel's graphic design of the photographic publication *Picture Report on the First Twenty Years of the Czechoslovak Republic,* published in 1938 by the Prague Publishing House in 1938.

Conclusion

Rudolf Čermák in Part 2 *History of drawing teaching at national schools* classified image statistics in the category of used handwriting. (Čermák, 1940, p. 78) Vladimír Konvička apparently did not want to create a universal visual language. However, visual statistics as a means of modernizing the teaching of drawing became one of the pillars of the visual literacy of modern times. The timeless importance of the intelligibility of the

language of pictorial statistics in Tschinkel's publications is evident in the field of graphic design, including web design and infographics to this day. The combination of image, data and simplicity of communication as a principle of contemporary visual communication can inspire quality education methods for the future.

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Pictorial Statistics in Visual Art Education in the 20th century

Abstract: This paper deals with the modern method of visual communication system, the idea of which originates from Otto Neurath. Pictorial statistics works with simple, understandable and clear symbol as a schematic image. The promoter of integration of pictorial statistics into visual arts was Vladimir Konvicka, supporter of utility drawing. According to him, the visual literacy must be understood in its complexity and art education should be adapted to the practical needs of modern times.

Keywords: visual perception, picture, statistics, symbol, visual art education.

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[1] In 1953, a set of wall school paintings was published under the title *Living Alphabet* , which served as a source of the book of the same name existing to this day.

[2] The theory that vision is not only sensory sensation but also an abstract method of cognition was developed at the same time by P. Klee or B. Markalous. In this context it is possible to mention the effort to psychophysical personality development developed by the method of drawing two-handed and put into practice by L. Tadd (Čermák, 1939, p. 16).

[3] Represented, for example, by the German typographer and designer Jan Tschichold, author of *Die Neue Typographie* (New Typography) from 1927.

[4] Obrazová statistika byla české odborné veřejnosti představena roku 1934 obsáhlým článkem Vladimíra Konvičky v Československém kreslíři.

[5] Technický nebo také konstruktivní směr preferoval zručnost, praktičnost a kritičnost. Psychologický směr chápal kreslení jako nástroj tvořivosti. Konvička svůj přístup nazýval psychologickým konstruktivismem. (Čermák, 1941, s. 5)

[6] Autor přiznává, že příspěvek nepíše z hlediska pedagogického ani uměleckého, ale zajímá ho zejména typografie a odborné školství. Do recenze zahrnul i vzpomínku na vlastní vzdělávání: *„Vyučovací metody kreslení jsou mnohem promyšlenější... Zatím co my jsme dělali nudnou práci spojováním několika centimetrů vzdálených teček..., směřují dnešní metody k tomu, aby žák myslel, tvořil, hodnotil formu i barvu.“* (Poskočil, 1928, s. 121)

[7] Karel Rýdl ve stručném medailonu z cyklu Učitelské osobnosti v časopise *Rodina a škola* čerpal z pozůstalosti Vladimíra Konvičky objevené v 90. letech a uložené v Muzeu Komenského v Přerově. (Rýdl, 1998, s. 21)

[8] Konvička pro obrazovou statistiku používal synonyma kresebná nebo grafická statistika.

[9] 1. Kvantitativní rozvoj téže jednotky v různých časových obdobích. 2. Kvantitativní srovnání určité jednotky místní se stavem v místech jiných. 3. Diferenciace jednotek téhož charakteru. 4. Zeměpisná distribuce téže jednotky. 5. Poměr částí k celku.

[10] Obrazové statistiky bývalého Neurathova spolupracovníka Tschinkela se pravidelně objevovaly v měsíčníku *Naše republika*.

[11] Rudolf Pros v 1. ročníku časopisu (1931/1932) v článku *Úkoly a povinnosti mladé generace* kritizuje dekorativismus (hlavní téma reformátorů už ve 20. letech) a hledá novou orientaci: *„Přední složkou odborné přípravy kreslířovy jest všestranné ovládání metodiky kreslení. Je to alfa i omega úspěšného vyučování vůbec.“* (Pros, 1931, s. 5)

[12] V závěru Markalous uvádí: *„Ale jsou v jeho knize také reprodukce děl Picassových, Fillových, Čapkových, Šímových, Toyenové a Štýrského. Nerozumím, proč byly do knihy zařazeny. Jsou přece z jiného světa, právě z opačného pólu, než jest vlastní úsilí myslivého autora a zasloužilého a průbojného reformátora.“*. V tomto kontextu si můžeme uvědomit jiná hodnotící kritéria meziválečné avantgardy a „avantgardního“ školství. (Markalous, 1933, s. 59)

[13] V úvodu článku okomentoval výstavu patnácti let Rudé armády: *„Srovnáváme-li však namnoze nedokonalost techniky i komposice s virtuositou mistrů Ruska starého, konstatujeme tendenci zřejmě sestupnou...“* (Konvička, s. 12)

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