

Paweł Kowalski

**TRANSFORMATIONS OF THE COMPLEX GENERAL ECONOMIC
MAP IN SCHOOL ATLASES**

The first economic maps started to appear in school geographic¹ atlases in the second half of the 19th century. A few may be found in some atlases published at that time. The author has traced the first such map to the atlas *Uchebnyi atlas von Sidova* (Gotha, J. Perthes, 1868), an edition of E. Sydow's atlas in Russian. The map in question is an economic map of the European part of Russia. The first German atlas containing maps of this kind quoted by A. Oppel (1891) is *Hummel's Schul-Atlas zum Unterricht in der Erdkunde* (Leipzig, Körner u. Dietrich 1887). The next one is *Diercke Schul-Atlas für höhere Lehranstalten* (G. Westerman 1898). The remaining German, Austrian, French and Russian atlases with the first maps presenting the economies of countries or larger regions were published in this century, e.g., *E. Debes Schul-atlas* (Leipzig, H. Wagner u. E. Debes, 1915), *Kozenn Geographischen Atlas für Mittelschulen* (Wien, Ed. Hölzel, 1905), *Uchebnyi geograficheski atlas* (S. Peterburg, A.F. Marks, ca. 1900), Haack — von Seydlitz *Oberstafen Atlas...* (Gotha, J. Perthes, 1913). Not all these maps are general economic maps in the contemporary sense of the term, but may be, treated as such when they present at least two sectors of the economy (e.g., agriculture and some branches of industry). One characteristic feature of these maps was a relatively small scale (with the exception of *Uchebnyi atlas von Sidova*, 1868). Most economic maps in these atlases employed only two methods of presentation — point symbols and areas. The latter method was generally used to present the most important branches of industry, mineral resources, crops and animal breeding. The maps in German and Austrian atlases also showed January and July isotherms. Initially, they were only maps of the native country, and later they also embraced other coun-

¹ The article is concerned exclusively with atlases for secondary schools of general education and disregards atlases for secondary schools training shop staff, economic atlases and "dumbatlases" ("Stummen Atlas") A.C. Gaspari, *Neuer methodischer Schul Atlas, I Cursus*, Weimar, Verlage des Industrie Comptoirs 1792.

tries and regions of Europe; as for other continents, only economic maps of the U.S.A. were made (at a very small scale).

As map scales were small and the maps themselves were becoming increasingly detailed, in later years economic information was presented on two or even three maps, especially in the case of the native country and the highly developed countries of Europe. One map would most often present agriculture and the other—mining and industry.

In the 1920s, the first synthetic economic maps of continents were published *Schweizerischer Mittelschulatlas*, (1924), *Atlas geograficzny* [Geographical Atlas] (Korbel S., Sawicki L., Kraków 1922—25). World maps commonly presented "forms of the economy" (Wirtschaftsformen), as may be seen in the atlases *Diercke Schulatlas* (1913); *Atlas geograficzny* [Geographical Atlas] (Korbel S., Sawicki, L., 1922—25), *Kozenn Atlas*, (1943), *Sydow-Wagner Methodischer Schulatlas* (1931). Special mention is due to the maps elaborated by J. Hösli and published in *Schweizerischer Mittelschulatlas* (1948).

Along with the synthetic approaches adopted on world and continent maps, the distribution of the main crops, animal breeding and natural resources was presented in an analytical manner.

The general economic maps made at that time were often criticized for their insufficient legibility, which was due to the small scale, i.e., also limited capacity of the map, combined with imperfect printing techniques and graphic forms which were not suited to these techniques. Increasing the scale of economic maps and a considerable improvement of techniques created opportunities for a substantial improvement of the legibility of the maps. The first atlas which presented economic maps of continents on the scale of the main map was *Österreichischer Mittelschulatlas* (Wien, Ed. Hölzel, 1951). The next step was taken in *Unsere Welt* (Velhagen and Klasing u. Schroedel, 1964), which introduced general economic maps of countries and regions on the same scale as this idea was *Weltatlas. Die Staaten der Erde and ihre Wirtschaft* (Leipzig, Verlag Encyklopädie, 1952). The same approach was employed in the Soviet atlas *Uchebnyi atlas mira* (Moskva, GUGK, 1967) and partly also in *Österreichischer Mittelschulatlas* (Wien, Ed. Hölzel, 1961).

The proportion of economic maps in school atlases was increasing steadily, though very slowly. For instance, *Kozenn Atlas* of 1928 contained 17% of economic maps, and of 1930 — 20.5%; *Österreichischer Mittelschulatlas*, (Kozenn-Slanar of 1951) was composed of economic maps in 26% (after: R. Rungaldier, 1952); *Diercke Schulatlas* of 1913 contained 5.5% economic maps, the proportion for the 1931 edition being 10.6%, and for the 1957 edition — 21%.

The introduction of the *Example of a Comprehensive Teaching Model* in the Federal Republic of Germany in the beginning of 1970s resulted in a sudden increase in the number of thematic maps, including general economic maps, in West German atlases. Changes in the school curricula in other German-speaking countries forced publishers to start work on new atlases. In the Soviet Union, too, studies and experiments are being conducted with the purpose of introducing a method for the teaching of selected and at the same time in-depth knowledge of countries and regions resembling West European exemplarism (Maksakovsky 1982).

The problems of school cartography of the 1970s have been subject of many papers, e.g., F. Aurada (1970, 1981, 1985), E. Arnberger (1970, 1972, 1975), H.F. Gorki (1983), H.A. Sandford (1982).

A new model of a complex-analytical general economic map started to take shape in the early 1970s. Greater diversity of symbols used on school maps (even within one country) controversies concerning the accuracy of selection of these symbols and discussions in cartographic journals stimulated the interest in school cartography and resulted in launching extensive studies in this field. The systematic research launched in Austria in the early 1970s (Arnberger 1981), the research conducted by the Working Circle for School Cartography of the German Scientific Society (Plapper 1981) and the diverse studies of the perception of various graphic forms carried on for several years now in the U.S., Canada and the Soviet Union can be used for the preparation of school maps and may well produce a crop of a new generation of general economic school atlas maps. That changes are likely to occur may be seen in many new and improved editions of school atlases currently published.

Transformations of general economic maps in the early 1970s were limited mostly to their graphic form and only in some cases extended also to the range and classification of map content (*Diercke Weltatlas*, Braunschweig, G. Westermann, 1974; *Alexander Weltatlas*, Stuttgart, Ernst Klett 1976; *Schweizer Weltatlas*, Zürich, Orell Füssli G.B. 1981 — maps of North and South America). It should be noted that in recent years there has been a tendency to abandon pictorial and letter signs for the sake of geometric and symbolic signs (e.g., the above mentioned *Schweizer Weltatlas* 1981, *Seydlitz Weltatlas*, Berlin, CVK Schroedel G.V. 1982).

A general economic map should provide possibly comprehensive information on a given territory's economy and present economic interrelations in a given region. It should also illustrate the actual proportions between various branches of the national economy and the level

of economic development. Therefore, elements of the content should be selected so as not to distort the actually existing relations. This brings us to the problem of selection of cartographic symbols; when performed incorrectly, it may exaggerate or belittle the importance of some branches of a given region's economy. For instance, the systems of symbols used in the atlases *Unsere Welt* (1982), *Uchebnyi atlas mira* (1980), *Atlas Sweta* (1980) and *List Grosser Weltatlas* (1981), give prominence to industry, while the systems of symbols used on the economic maps of America in *Diercke Weltatlas* (1980) and *Schweizer Weltatlas* (1980) provide an equivalent presentation of two branches of the economy represented with point symbols — mining and industry.

This approach to the general economic map, which has been discussed here in a cursory manner only, requires further studies and analyses, especially as regards map content. The author is of the opinion that general economic maps should be concerned with the differentiation in the level of economic development of different regions to a greater extent than is the case at present. Maps of the most developed regions should also present those branches of industry and sectors of the economy which determine the level of economic development.

REFERENCES

- Arnberger E., Mayer F., 1972 Die Neugestaltung des Geographienunterricht im Spiegel von Westermanns Schulatlas". *Mitt. d. Österr. Geograph. Ges.* Bd. 114, Heft II, S. 175—177.
- Arnberger E., Mayer F., Witt W., 1975 Schulkartographie gezeichnet am Beispiel des neuen „Diercke Weltatlas". *Internat. Yearb. of Cartogr.*, XV, S. 91—110.
- Arnberger E., 1982 „Neue Forschungen zur Wahrnehmung von Karteninhalten", *Kartogr. Nachr.* Jg 32, H. 4, S. 121—132.
- Aurada F., 1961 „Moderne Haus- und Schulatlanten — die kartographische Länderkunde der Gegenwart". *Kartogr. Nachr.* 11, H. 5, S. 129—140.
- Aurada F., 1970 *Zur Lage der Schulkartographie am Beginn der siebziger Jahre.* Sonderband d. Österr. Geograph. Ges., S. 29—48.
- Aurada F., 1981 „Funfundzwanzig Jahre Schulatlas — Entwicklung im deutschsprachigen Raum". *Kartogr. Nachr.* H. 3, S. 85—100.
- Aurada F., 1985 „Zur Problematik der „exemplarischen Darstellung" in den Schulatlanten des deutschsprachigen Raumes". *Kartogr. Nachr.*, H. 1, S. 7—11.
- Gorki H.F., 1983 „Glanz und Elend der Schulkartographie". *Kartogr. Nachr.* H. 4, S. 137—141.
- Imhof E., 1948 „Der Schweizerische Mittelschulatlas". *Geogr. Helv.* III, S. 293—371.
- Maksakovsky W.P., 1982 *Nauchnye osnovy shkolnoi geografii*, Moskva, Izd. Prosveshchenye.

-
- Oppel A., 1981 „Über Wirtschaftsgeographie und Wirtschaftsgeographische Karten. *Deutsche Geogr. Blätter* S. 43.
- Plapper W., 1981 zur „Wahnehmbarkeit von Wirtschaftssignaturen in Schulatlanten“. *Internat. Yearb. of Cartogr.* 21, S. 154—167.
- Preobrazhensky A.I., *Ekonomicheskaya kartografiya*, Moskwa 1953.
- Rungaldier A., 1952 „Wirtschaftskarten in Heimat- und Schulatlanten“. *Mitt. d.*
- Sandford H.A., 1982 *A Global Study of the Content of Current School Atlases...*
XI International Cartogr. Conference, Warsaw.

