

The Nineteenth-Century Origins of Global Secondary and Higher Education*

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In this paper we trace the nineteenth-century origins of the contemporary forms or organization of secondary and higher education, which have by now spread all over the world. With respect to secondary education, the authors consider the development and spread of the so-called 'humanistic schools'. As for the universities, we pay attention to the emergence of the two models of modern university in Europe (in France and in Germany) and to the global spread of these models.

Keywords: *education, 19th century, secondary education, humanistic schools, university, French university model, German university model, von Humboldt.*

Secondary Education in the Nineteenth Century: Diffusion of Humanistic Schools

In the nineteenth century, the form and content of secondary education drastically changed. Meanwhile, one can speak about the reformation of secondary education system already starting from the 16th and 17th centuries, when the new types of schools emerged including lyceums, gymnasiums, scientific schools *etc.* (Brockhaus and Efron categorize these schools as 'humanistic schools'), which substituted for monastic and order schools. However, the content of education mainly consisted of Latin and the Law of God, as it used to be in the medieval times. Some changes occurred at the end of the seventeenth century, when German and French were included into the secondary schools' curricula. Later, in the 18th–19th centuries curricula were expanded by adding math (including arithmetic, algebra, geometry, and trigonometry) and natural sciences (including geography, botany, zoology, and mineralogy).

The first gymnasiums of modern type were established in Prussia during the reign of Frederick the First. Their main goal was to prepare students for university education. The Prussian gymnasiums set a new objective at the beginning of the 19th century, when the successful passing of maturity exams became obligatory not only to continue education at university, but also to get a job as a civil servant (Brockhaus and Efron).

By the end of the 19th century humanistic schools were established almost all over Europe: gymnasiums in Austria-Hungary, Prussia, Serbia, Bulgaria and Russia, lyceums and colleges in France, grammar schools and high schools in England and the USA; peculiar types of humanistic schools (functionally similar to the above-mentioned ones) existed in Belgium, Spain, Italy, Switzerland, Scandinavian countries *etc.* (Brockhaus and Efron).

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Higher Education in the 19th Century

Formation and the beginning of global diffusion of the model of European university

At the beginning of the 19th century as a result of Napoleon's campaign which eliminated a large number of small and underdeveloped higher education institutions throughout the conquered territory the number of universities in Europe was quite small. It was a positive outcome to some extent, since new forms of higher education institutions developed. Some of them exist until present. The most significant form was the model of the university. In this section we would like to examine the differences between university and pre-existing higher education institutions.

Anderson (2004) points out that medieval traditions were a common sight in universities up to the 18th century. Special teachers' and students' corporations existed under surveillance of the government and church although having substantial autonomy. Universities were responsible for preparing ministers, lawyers, and doctors. A university diploma was mandatory to take on those jobs. These objectives defined the university structure: its main divisions were the faculties of law, medicine, and theology along with the faculty of philosophy, which provided general knowledge for all the above-mentioned faculties (Anderson 2004: 5).

At the beginning of the 19th century the situation changed dramatically. Two new university models were formed – the French one, created by Napoleon Bonaparte, and the German one, connected with Wilhelm von Humboldt in the first place (as well as with Kant, Fichte, and Schleiermacher).

A new university was established at the very beginning of the 19th century. It was a very large state corporation with separate faculties. Formalities and the operation of each division, including the teaching methods, students' books and even teachers' private life were under strict control and regulations. This represented a new French model of the university (Brockhaus and Efron, Anderson 2004: 43, 58; Charle 2004: 44–47). According to this model the main objective of the new university was to prepare qualified civil servants. It turned to produce a crucial effect on social and political stability through limiting the spread of freethinking. The implementation of this model had slowed down the establishment of contemporary-type universities, which appeared only at the end of the 19th century. However, this model spread throughout Europe (mostly throughout the conquered territory). Many its elements, such as centralization and strict control over the content of university education, were incorporated in Italian and Spanish education systems, and later spread from Spain to Latin-American countries (Charle 2004: 44–47; Shils and Roberts 2004: 178–179).

Along with the above-mentioned outcome Napoleon's reform created another type of educational institutions – higher education technological institutions, the so-called *Ecole Polytechnique*. Their main goal was to prepare engineers and artillerymen. The basis for such institutions was developed in the 18th century in Germany, Russia, Austria, and Hungary, where mining and engineering schools had been common. The French model added new math and physics courses of higher level to the curricula (Ruegg 2004: 10). In the nineteenth century such institutions became widespread all over the world, including Latin America, Middle East, South and Eastern Asia *etc.*

The German model had a number of significant differences from the French one. Some of them reflected the structural differences of the countries themselves – centralized Bonaparte's France versus fragmented Germany. Contrary to the unique French university

Germany had 35 universities in 1789 (Charle 2004: 33) where the German model developed.

Having its roots in the 18th century (universities of Gottingen and Halle) this model had been fully formed by the beginning of the 19th century and started to actively spread during the second half of the 19th century. Humboldt's ideas of the strong interconnection between scientific research and teaching became the basis for this model. According to Humboldt, teachers were to carry out scientific research whose results were to become the basis for their lectures. Narrowly specialized teachers substituted for professors with encyclopedic knowledge (say, law teachers were substituted with international law teachers, Roman law teachers *etc.*). The content of the classes coincided with particular topics of scientific research.

In other words, professors could choose the topics of their lectures depending on the sphere of their scientific research. The students were obliged to engage in scientific work coached by their professors. Faculty of philosophy was a transitional stage between the gymnasiums and professional faculties. Seminars became a brand new form of teaching in the universities. During such classes students could join in scientific work. One should also point that students were to a large extent free to choose the courses according to their inclinations. The end-of-course assessment helped them to choose suitable courses. In order to get a doctor's degree students had to present the results of their individual research. The final qualification exams for the intended doctors, lawyers, and ministers were carried out by the government (Anderson 2004: 51–58; Charle 2004: 47–51; Brockhaus and Efron, Ruegg 2004: 4–5). The role of the government in Humboldt's model was limited to two functions only – to the preservation of the freedom and to appointments of professors (Ruegg 2004: 5).

Humboldt's ideas were brought to life for the first time and to a great extent in the University of Berlin which was founded in 1810. By the twentieth century the corporations of teachers and students, working to search for the scientific truth, became orthodox (Anderson 2004: 56).

We would like to pay major attention to the spread of contemporary European university model throughout the world. It is necessary to point out that this process had started much earlier. By the end of the nineteenth century some countries of Latin America adopted many university features from Spain. The USA also adopted some features, but from the Great Britain (Shils and Roberts 2004: 163). Russia was one of the first to adopt the German model. A number of universities were founded at the very beginning of the nineteenth century (in Vilnius in 1803, in Kharkov and Kazan in 1804, in Saint Petersburg in 1819) (Charle 2004: 35, 48). German model widely spread in such European countries as Austria-Hungary, Switzerland, Greece, Bulgaria, Scandinavian countries, *etc.* (Charle 2004: 36–44, 64–68). It also influenced the education system in the Great Britain, where by the end of the nineteenth century the research work developed and the number of courses was enlarged to foreign languages and natural science (Charle 2004: 61–62).

During the second half of the nineteenth century some features of the German model (in particular the principle of interconnection of scientific research and teaching, as well as seminars) penetrated the USA education system, which previously had used to follow the tradition of British model with its autonomous colleges. It is important to point out that different universities of the USA adopted the elements of the Humboldt's model to different extent. The universities which reflected this model to the greatest extent were the University of Chicago, John Hopkins University in Baltimore, and Harvard University. Many

of the universities that had been established earlier preserved the traditions of the British model, especially the ones related to the university management. For example, many of them had a position of the President of the University (Shils and Roberts 2004: 164–175).

As mentioned above, the French model influenced the Latin-American countries and French colonies for a long period of time. Some features of the French model also spread across the Middle East and North Africa including Egypt. However, the latter adopted the policy of establishing specialized colleges (medical, polytechnic, law or humanitarian sciences) rather than centralized universities (Shils and Roberts 2004: 186–191). In 1857, the British government established three modern universities in India, in particular, in Calcutta, Bombay, and Madras, applying the model of the University of London (*Ibid.*: 200). In 1877 the University of Tokyo in Japan was established by the example of the American universities. The University of Beijing was opened in 1898 and adopted the pattern of some European universities. Finally, in 1911 the University of Hong-Kong was opened using the examples of British Universities (*Ibid.*: 216–223).

Global Spread of the European Education Model in the 19th Century

By the beginning of World War I the educational institutions of the European type were widespread all over the world (with the only exception of the countries of Arabian Peninsula) and they included the following education patterns.

1) *Anglo-Saxon Immigrant colonies and the USA* represented the nearest periphery of the Great Britain. Contemporary formal education developed following the Western European model and by the beginning of World War I the spread of primary education was comparable to the leading countries of Western Europe.

2) *South Europe* during the first part of the second millennium was a center of establishment of modern European education system. However, in the early Modern Era it lagged behind Western Europe; thus, in the nineteenth century a contemporary education system was spreading in South Europe with a delay.

3) *Eastern Europe* was comparable to South Europe in the spread of contemporary education by the beginning of World War I. All the levels of education were widespread here; however, it was still considerably lagging behind North and Western Europe.

4) Very similar conditions were in the majority of countries of *Latin America* by the beginning of World War I, which were slightly lagging behind their South-European metropolises. However, the gap between Latin America and North America and North-Western Europe was significant.

5) *The Ottoman Empire* was establishing its education system even more slowly and was lagging behind even more. Some features of modern education appeared here in the eighteenth century, however, only in the sphere of military education. In the first half of the nineteenth century some elements of European education were incorporated by Muhammad Ali in Egypt. However, the real establishment of modern education system started during the Tanzimat reforms, when in 1847 the Ministry of Education was established (Mekatib-i Umumiye Nezareti), and in 1848 the first modern universities (*darülfünun*) and teacher training colleges (*darülmualimin*) were established.

6) There was a peculiar model of the spread of modern education in the conquered *colonies* of the European countries. The process of establishing contemporary education institutions proceeded rather rapidly and had started after the conquering, since the me-

tropolises needed qualified personnel from the locals (non-commissioned officers, administrative clerks) to exploit the colonies effectively. However, modern education was spreading very slowly in contrast to resettlement colonies.

7) There was a special model of the spread of the modern European education in *East Asia*. At the early Modern Era there occurred a so-called *closing* of all East Asian countries. Foreign contacts were restricted and the countries were kept under strict state surveillance. Under such conditions it was impossible to borrow any experience from the European countries. After the *opening* of these countries by the Europeans a successful education system modernization was carried out in Japan. Moreover, when Japan occupied Korea and Taiwan, its education system was spread there too. The establishment of modern education institutions in China started in 1862 within the framework of the Self-Strengthening Movement. However, the modernization of education system lagged in comparison with that of Japan.

8) Other Asian and African countries, which preserved their independency until World War I (Iran, Thailand, and Ethiopia), developed different models of education systems. The spread of modern education in Iran started in the 1880s and associated with Haji-Mirza Hassan Roshdieh's activity. Remarkably, he adopted the model of contemporary education not from Western Europe, but from the Ottoman Empire. This decision was probably defined by his studies at the Beirut Teachers Training Institute. Thailand followed the East-Asian path since the country was *closed* in the early Modern Era as well. The modernization of its education system took place when it was *reopened* in the 1870s. Afghanistan and Ethiopia were developing the education systems even more slowly and opened their first European-type educational institutions at the very beginning of the twentieth century at the reign of Khabibulla-khan and Menelik II.

References

- Anderson, R. D. 2004.** *European Universities from the Enlightenment to 1914*. Oxford: Oxford University Press.
- Charle, C. 2004.** Patterns. In Rugg W. (ed.), *A History of the University in Europe*. Vol. III. *Universities in the Nineteenth and Early Twentieth Centuries (1800–1945)* (pp. 33–82). Cambridge: Cambridge University Press.
- Rugg, W. 2004.** Themes. In Rugg W. (ed.), *A History of the University in Europe*. Vol. III. *Universities in the Nineteenth and Early Twentieth Centuries (1800–1945)* (pp. 3–32). Cambridge: Cambridge University Press.
- Shils, E., and Roberts, J. 2004.** The Diffusion of European Models outside Europe. In Rugg W. (ed.), *A History of the University in Europe*. Vol. III. *Universities in the Nineteenth and Early Twentieth Centuries (1800–1945)* (pp. 163–233). Cambridge: Cambridge University Press.