

VALERIU BOLOGA'S STUDIES ON THE HISTORY OF SCIENCE

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Abstract

History of science is a vast and complex domain, comprising many sub-domains, such as: the history of medicine, history of chemistry, history of physics etc. Different specialists in these sub-domains, trying to reach the general and integrative understanding of the history of science, succeeded only after they acquired a rich scientific experience in their fields of activity. One of the scientists who had interesting papers on the history of science was Valeriu Bologa (1892-1971). He was the first Romanian professor of history of medicine. Our paper presents some milestones regarding his preoccupations on the history of science. The aim of our study is to prove that, although he was primarily a historian of medicine, he surpassed this framework, proving to be a skillful historian of science. The topics of his works on the history of science included: the value of the unity of science, the ethical aspects of science during centuries, the interferences between the history of science and the history of medicine etc.

Keywords: Valeriu Bologa, history of science, history of medicine

Introduction into the subject of history of science

History of science is a very large, complex, diverse, but also unitary and fascinating field of study. Its sub-domains are: the history of medicine, history of pharmacy, history of biology, history of chemistry, history of physics, history of mathematics etc. A correct approach of history of science requires a great deal of knowledge in many sciences. Usually, the studies of the history of science are undertaken by specialists in different sub-domains of science only after a long experience in their field of scientific activity. In this situation, the history of science communications and papers are not numerous. Thus the history of science may be considered a sort of "rara avis in terribus".

In a general understanding, the history of science presents the beginning and the development of science, including both natural sciences and social sciences. There is a significant difference between the history of science and the history of scholarship. The history of scholarship

is the study of history of the arts and humanities. However, there are also interferences between history of science and history of scholarship.

The medico-historian Spielman József (1917-1986) – one of Valeriu Bologa's disciples – stated that although there are well defined borders between humanities and natural sciences, none of the representatives of scientific disciplines is exempt from acquiring information on the overall results achieved by human knowledge. He added that in this way it is possible "to be contemporary with yourself" [1].

Regarding the study to the history of science, it can be done in different ways. As the English historian of chemistry Maurice Crosland (b. 1931) noted, the approach may be considered separately for different sciences: physics, chemistry, biology etc. He added that "this approach is understandable when history of science is the work of retired specialists in a particular science". Continuing his point of view, he mentioned that "on the other hand, many of those who have approached the history of science from a training in general history have tended to favor a study of a particular period as an alternative to an

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orientation by subject. This is particularly valuable before the nineteenth century, when such boundaries were not so tightly drawn as some of the old science historians tended to assume". Crosland also point out a third possibility – the area studies. This is usually the history of science in a particular country [2].

The roles played by the historians of science are complex. As the English medico-historian Roger Cooter emphasized, "for the past half-century or so they [historians of science] have pioneered the study of science in culture and as culture. They have elaborated the sociopolitical construction and historical epistemology of concepts and categories as basic to modern science and modern thought as "objectivity", "empiricism", and "experiment" [3]".

Professor Valeriu Bologa's studies on the history of science

Valeriu Bologa (1892-1971) was the first Romanian professor of the history of medicine. His didactic and scientific career was carried out at the Department of History of Medicine of the Cluj Faculty of Medicine. The existence of this department began in 1921, at the initiative of Professor Iuliu Hațieganu (1885-1959). Its founder and first director was the French Professor Jules Guiart (1870-1965). Between 1921-1930 his assistant was Valeriu Bologa. When Guiart returned to France, in 1930, Bologa took over the leadership of the department. He became associated professor in 1932 and full professor in 1937. Soon he brought the Cluj History of Medicine Department to a great international prestige. During the interwar period the official name of the department was "Institute for History of Medicine, Pharmacy and Medical Folklore". In 1962 Bologa became consultant professor and he held this academic title until the end of his life [4].

We will not enlist the topics of Bologa's scientific researches, because they covered a large area (and our paper does not the aim at presenting his scientific activity).

During nearly half a century Bologa had a significant interest for the history of science, either as an independent subject, or, most frequently, as background of research work concerning the progress of medicine.

In the interwar period he participated in some manifestations of history of science. In 1933 he was member of the seventh scientific commission for the organization of the History of Science section of the International Congress for History (which took place in Warsaw, in the same year). In 1933 he was the delegate of the "Romanian Group for the History of Sciences" to participate in the International Congress of the History of Science (held in Paris in the same year).

He was founding member of the Romanian Group for the History of Sciences, which was affiliated to the International Academy for the History of Sciences from Paris. Earlier – in 1933 – he became member of this

Academy for the History of Science [5]. There are other examples, but we do not insist on them.

One of Bologa's first reports regarding history of science was suggestively entitled "History of science teaching in universities". This overview was presented in 1928 at the Congress of Naturalists from Romania, which was held in Cluj. In this communication, he revealed that the studies performed by the forerunner scientists concerning nature, although they were wrong in many details, their studies were (in their overview) more synthetic than the contemporary studies. He referred to the fact that during different periods of history (e.g. in the Renaissance, in the XVII century etc.), the accumulation of knowledge included only a few correct data, with a lot of false notions and even misconceptions. However, during many epochs of the past the science had the advantage of remaining homogeneous. In the nineteenth century, when the evolution of science became more marked, many of its sub-domains acquired their independence. The consequence of the great proliferation of knowledge was that the unit of science became increasingly less marked, up to dissipation. For solving this problem, Bologa recommended to penetrate as much as possible in the reflection of old naturalists, in order to reach at a unitary knowledge of natural phenomena. He added that only by putting into practice this recommendation it would be possible to highlight the fact that the history of science become an independent discipline [6].

Regarding the interferences between history of science and history of medicine, although the rhythm of progress of science was not the same, not even similar to the development of medicine, yet in the second half of the nineteenth century it came to an important step. This was described by Bologa as the apogee of a happy collaboration of medicine and science [7].

It is worth adding that history of science should be analyzed either from the time perspective or from the technology perspective: either on wider evolutionary period, when scientific progress were not very marked, or for short periods of time, when technology was in a rapid advancing, as is the case of contemporary history.

Bologa put into evidence some scientific problems that, from a methodological standpoint, should be discussed by the history of science. He debated these problems by referring to the natural sciences. From the beginning he made the differences between the main – classic – problems and the current problems in the domain of history of science. We will mention them and also Bologa's point of view, using exactly the topics from his communication presented at the First Congress for Natural Sciences held in Cluj, in 1928. The first four issues were: I - the birth and evolution of the main problems; II - the control of current problems, both from the standpoint of their originality, as well as of their value (intrinsic value and value of practical applicability); III - the history of scientific errors (*Historia magistra vitae!*); IV - as a direct outcome of those mentioned

in the II and III points: it is necessary to revive a number of old and forgotten problems that deserve to be studied with new methods [8]. It is important to add that he did not overlook the errors of science, made over the centuries. He showed that from a historical perspective, the analysis of the evolution of sciences has, among other purposes, the role to detect these errors. It is obvious that Bologa had a special care for the resumption of old problems that had not been resolved. Because many of these problems passed into oblivion, he supported the necessity to approach them with new methods of science. The other themes Bologa approached were: V - genius – giftedness, psychology of genius and of talent and history of the scientific creation; VI - the framing of the history of sciences in the history of civilization, ethical value of sciences in human history and the influence of scientific thinking on the political history and «vice versa» [9]. It may be observed that a special segment of his communication was focused on the history of scientific creation. We consider necessary to emphasize that he separated the genius from the talent.

Pedagogically, Bologa revealed the usefulness of framing the history of science in the history of civilization. However, he did not confine to this aspect, undoubtedly very important. He insisted on the ethical dimension of science, in the sense that the overall history of science has to detect what is ethical and what is out of ethical criteria along the history.

Another significant approach of the history of science was Bologa's inaugural lesson entitled "Universitas Litterarum and the history of science". The lecture, held on 18 February 1932, marked the beginning of his activity as associated professor at the Department of History of Medicine of the Cluj Faculty of Medicine and Pharmacy. He presented this lecture in "Vasile Pârvan" Hall of the "King Ferdinand I" University. As pointed out by Bologa's pupil Samuel Izsák (1915-2007), in this lesson Bologa outlined a philosophical and historical vision of natural sciences, especially of medicine, which under excessive specialization process could keep its conceptual integrity only having a rational, unitary and integral vision [10]. The existence of a hall named Vasile Pârvan (1882-1926), marked the Vasile Pârvan's prestige, one of the founders of the Romanian University of Cluj.

The risk of wasting the unity of science – which is also reflected in medicine – was pointed out in Bologa's study entitled "Analysis and Spirituality in Medicine. Some Methodological Reflections", edited in 1942. He stressed that the history of science seeks to restore the unity of science, which was lost by the excessive specialization of technology. He emphasized that the history of science opened a wide perspective on laboratory research and also promoted the understanding of the human spirit. Bologa revealed very often the role of synthesis in the history of science. He was also the adept of the "pedagogical and doctrinal" role of the history of medicine, which should

lead the students and young doctors to a "synthetic vision" [11]. Continuing this conception, he put into evidence that only the synthetic overview of medicine is able to offer the correct perspective in medicine. In opposition, the "analytical" overview leads to an impasse [12]. This "pedagogical and doctrinal" role of history of medicine led Iuliu Hațieganu (1885-1959), Iuliu Moldovan (1882-1966) and other clairvoyants to have the initiative of creating the Department of History of Medicine at the Faculty of Medicine from Cluj. Having the help of Emil Racoviță (1868-1947) and Ion Cantacuzino (1863-1934), they invited Professor Jules Guiart (1870-1965) from Lyon to found in 1921 in Cluj the first chair of history of medicine from Romania [13].

Fundamentally, Bologa mentioned the role of history of science as a framework of history of medicine. Thus, he lectured on various medical issues, such as the infectious diseases in the middle ages, or the laboratory researchs from the XVIII and the XIX century in the context of the evolution on science – as a whole domain – during those times. It is necessary to point out that Bologa was well trained in natural sciences, medicine and history. This was one of the advantages in his investigations regarding the history of science. He asserted the need for assembling, combining and completing the methods of approach to the history of science. We could add that different modes of study should be applied at the initial periods of the development of science, when the discoveries took place at longer intervals of time, but also for the contemporary period, when there is a cascade of discoveries, difficult to be monitored. Nowadays the usefulness of combining interpretative and empirical modes in studying history of science was shown by different scientists.

In Professor Bologa's study entitled "Medical Crisis and Historical Synthesis" edited in 1933, he presented a component of medicine crisis, referring to the doctrinal instability in the modern science and art of medicine. He reached the conclusion that: "by synthesis and using the historical thinking on medicine, the physician can reach a philosophical view of his science, becoming Hippocratic again, in the full depth of meaning of the word «father of medicine»: «The the philosopher physician is equal to the gods»" [14].

Looking back at the complex evolution of medicine in the nineteenth century, Bologa noted two aspects in particular. The positive aspect is that modern medicine gave support to the progress of positive sciences. The negative situation is that "specializations over specializations" that occurred in medicine led to the "loss of the medicine unit". Thereby "the synthetic unit of medicine" of the more distant past was broken. Bologa added that "too much technology runs to the danger of losing the intuition; the scientism atrophies the art of science". By making a correlation between the progress of medicine in the nineteenth century and the general evolution of science, which took place in the

same period, he noted that “analytical sciences by definition get to atomize, to crumble the natural phenomena” [15].

At the end of our paper, we consider useful to mention that Bologa focused on the history of science not only as an academic study, but also he has dealt with its popularization for students and for the general public. Thus, in 1931 he made the conference “What is history of sciences and what is its aim” for the Medical Students’ Society from Cluj [16]. In the same year he wrote the papers: “The unity of science”, “History of sciences as synthetic discipline” and “History of sciences in Europe and history of sciences in Romania”. All of them realized a feuilletton in the “Drumul nou” magazine (“The New Way”) from Cluj [17]. It is interesting that he did not sign these papers with his real name, but with the pseudonym Iacob Bădilă.

Conclusion

The history of science is a complex domain, in which histories of every branch of science are intertwined.

The study of the history of medicine is more useful the more it targets an interdisciplinary approach, with reference to the history of science. Therefore it needs sufficient time, including for teaching history of medicine.

Valeriu Bologa highlighted the need of the study of history of science as a remedy of the fragmentation of science unity, a phenomenon due to the progress of science in the twentieth century.

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