

# POLISH SCHOOL OF PHILOSOPHY OF MEDICINE – BETWEEN THE PHILOSOPHY OF SCIENCE AND CLINICAL PRACTICE

## POLONYA TIP FELSEFESİ OKULU – BİLİM FELSEFESİ VE KLİNİK UYGULAMA ARASINDA

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### Summary

The Polish school of the philosophy of medicine was developed in the second half of the 19<sup>th</sup> century. It was created as an interpretative school outside of the structure of universities and it focused physicians and philosophers with original and innovative methodological opinions who, in the situation in which Polish land was divided between three neighbouring countries (Russia, Prussia and Austria), could not find employment in university medical faculties. They earned their living by means of free medical practice and they developed their scientific interests within Polish scientific associations as well as in the columns of medical and cultural magazines, such as *Krytyka Lekarska* (Physician's Review). Only when Poland recovered independence in 1918 did some physician-philosophers from this group receive academic positions and they made - as for example Prof. Władysław Szumowski and Prof. Tadeusz Bilikiewicz - permanent contributions to the development of the Polish standard of academic education in the area of the history and philosophy of medicine. Others, such as Prof. Ludwik Fleck, although they had published their most important works already in the 30s of the 20<sup>th</sup> century, received academic positions only after the 2nd World War. It was Ludwik Fleck who the most was well known in the world - as an inspirer of T. S. Kuhn's concept - physician-philosopher, representative of the third generation of the Polish school of the philosophy of medicine. The aim of this paper is to present the most important persons and achievements of this school and in this context a profile and the output of Prof. Ludwik Fleck.

The development of clinical medicine standards in Europe since the middle of 18<sup>th</sup> century caused serious and fundamental theoretical discussions concerning the scientific basis of medicine and its role among other natural sciences and human sciences. In those discussions, disputes conducted in philosophy at that time concerning the epistemological and physical basis of human knowledge were reflected<sup>1</sup>. The reception of Newton's physics<sup>2</sup> in the natural sciences caused dissemination of cause-based interpretation (causalism) in the theory of clinical medicine, ousting purpose-based interpretation (teleology). The natural history of the second half of the 18<sup>th</sup> century also removed metaphysical interpretations from the theory of natural science which led to development of a model of somatic medicine, limiting its subject matter of research to the area of the human body, and interpreting both the genesis and progress of a disease using naturalistic categories<sup>3</sup>. The theoretical problems outlined at that time became the field of discussions carried out in the European medical environment throughout the entire 19<sup>th</sup> century and continued in the 20<sup>th</sup> century. The basic topic which were discussed included: 1) problems of the essence of human knowledge and its limits 2) the



problem of the rudiments of medicine as a science 3) the problem of the theoretical basis of therapy 4) the problem of so called subject reference that is to what extent medicine is based on natural facts available to human recognition and to what extent it is only a human theoretical construct concerning nature, historically variable and subject to the influences of culture. They were just the problems which became a theme of the philosophy of medicine as practised in European universities in both the 19<sup>th</sup> and 20<sup>th</sup> centuries.

Polish medical society was taking a small part in the disputes conducted in the 19<sup>th</sup> century in European university centres regarding the theoretical basis of medicine. From 1795, Poland was under occupations (Russian, Austrian and Prussian), and occupation authorities liquidated Polish universities that existed before 1795, which after the reform in 1773 remained at the highest European level with respect to the theoretical aspect. Only at the beginning of the 19<sup>th</sup> century did the occupational authorities agree to the opening of universities in the Polish land, with two functioning under Russian occupation in Vilnius (1804-1831) and in Warsaw (1817-1831) which were liquidated after the uprising lost by Poles in 1830. The University in Warsaw resumed its activities only in 1862 and the one in Vilnius did not recover until after the First World War<sup>4</sup>. On the lands occupied by Austria, a university in Cracow and Lviv were operating but only in Cracow was medicine taught as late as the seventies of the 19<sup>th</sup> century. Under Prussian occupation there were no universities until 1918. Under these conditions, with the enormous demand for medical practitioners on Polish lands, most graduates from medical faculties of the aforementioned schools did not undertake any scientific and theoretical activities and they did not take part in the European discourse about the philosophical basis of medicine. Those whose names went down in the history of science as researchers who had any output in this field worked usually outside of universities, therefore not creating their own medical and philosophical schools. Opinions expressed by Polish philosophising physicians often had also the nature of imitative and amateurish reinterpretation of concepts created by foreign authors. They were published in the medical press in small editions or the popular press intended for the intelligentsia the standard of which had to be adapted to the level of readers.

Against this background, those among Polish physician-philosophers who managed to create independent theoretical systems, or also to publish studies in which their philosophical reflections inspired by western ideas was more systematic in its nature, deserve the attention of European science historians. The opinions of some of them had influence much exceeding that of Polish science, and their names are known not only in the history of medicine.

Among the opinions of Polish philosophising physicians, whose influence in the local scientific environment we can regard as relatively permanent and concerning the whole of Poland, both in the 19<sup>th</sup> and 20<sup>th</sup> century, we can distinguish two trends. The first of these had nature closely connected with the standard of clinical medicine developed in the second half of the 18<sup>th</sup> century and on this basis formed theoretical reflections concerning not only medicine as science, but in general science as a human form of awareness. The ideas expressed by representatives of this trend were anti-metaphysical in nature; they were based on the philosophy of moderate scepticism, on the clinical experience of an individual doctor who had to convince the society surrounding him, accepting a certain theory, about his conclusions. The followers of the discussed trend in the philosophy of medicine assumed the following theses: 1) the world of nature exists independently of us as subjects familiarizing themselves with it and it functions pursuant to rules which are unknown to us; 2) the subject matter of recognition in natural sciences is the natural world, consisting of objects remaining between each other in certain physical relationships, placed in a physical space with certain physical properties; 3) the man and the human body, which is the subject matter of examination in medicine, should be investigated using the methods of the natural sciences and conclusions from this research



should be expressed in cause-related categories (causalism), free of metaphysics and finalist interpretations (teleology); 4) medical recognition is relative and subjective in its nature, since it is an expression of human beliefs about the natural world which is the subject matter of observations; 5) therefore, for the same reality of the natural world which exists outside of us as individual personal recognizing subjects, it is possible to create many different hypotheses, out of which some are more and some less connected with this reality; 6) as to which each of these hypotheses will be regarded as true at the given moment, this will be decided by scholar specialists gathered in a certain school of interpretation; 7) various schools may interpret a given fragment of reality in various ways, and single physicians should know as many differing interpretations as possible and on the grounds of their own judgement choose those that they consider the most convincing and practically effective; 8) physicians are also obliged to know interpretations (hypotheses) regarded by others as erroneous or insufficient because their own interpretation has also the status of a hypothesis which may turn out to be erroneous or insufficient; 9) hence they should show the readiness to reject any opinions which did not prove to be sufficiently justified or practically effective, as well as to accept opinions which are able to replace opinions disclaimed by science; 10) therefore, the theoretical rudiments of medicine should be based on the conviction of the stability of the physical world to which the human body belongs, and the instability of medical theory and practice that concerns this world. Thus, clinical medicine should be in this approach a living science, susceptible to changes, ready to lay down hypotheses, to verify them by experience and observations, to reject those which fail such verification. 11) clinical medicine should not give in to authorities, constant axioms present in human studies, but acknowledge the relativity and variability of scientific studies that it should regard as natural.

This most distinguished representatives of this trend in the Polish philosophy of medicine in the 19<sup>th</sup> century were professors Jędrzej Śniadecki<sup>5</sup> (professor at the University of Vilnius, creator of science about metabolism and the original concept of psychophysiology, tutor of a generation of Polish physicians which supported his philosophical views until the middle of the 19<sup>th</sup> century), Henryk Fryderyk Hoyer<sup>6</sup> (professor at the University of Warsaw, pioneer of Polish histology and microbiology, tutor of a generation of Polish physicians from the second half of the 19<sup>th</sup> century, supporting his philosophical views) and Ludwik Zembrzusi<sup>7</sup> (professor at the University of Warsaw, surgeon and medical historian, still in the 19<sup>th</sup> century he listened to the lectures of professor Hoyer in the University of Warsaw, his views were maintained by his students until the middle of the 20<sup>th</sup> century). Each of these authors not only made a considerable contribution to the development of Polish theoretical reflections concerning philosophy, but also produced considerable output in medicine itself. The authors implemented the theses presented above concerning the constitutive contents of the philosophy of medicine in their own research practice as physicians, university professors, creators of a standard in their field, tutors of young generations of physicians. Liquidity and the subjective nature of human knowledge, including natural knowledge, were their daily life experience from clinical practice which became the basis for their theoretical reflections. Prof. Śniadecki created a standard of clinical medicine at the end of the 18<sup>th</sup> and first half of the 19<sup>th</sup> century based on experience and observations as a point of reference for his philosophical theoretical views, while Prof. Hoyer refers to the model of experimental medicine by Claude Bernard. On the other side, Prof. Ludwik Zembrzusi referred to the achievements of the then contemporary surgery.

In the Polish environment of philosophizing physicians a different orientation was also recorded in the 19<sup>th</sup> century, focusing physicians not connected with the environment of university clinics, living from free medical practice, but expressing deep interest in philosophical issues. It was an environment very differentiated theoretically and it is difficult to distinguish specific schools in it, concentrating around their founders<sup>8</sup>. Attention should be drawn to the establishment of a special magazine, entitled.



„Krytyka Lekarska” (Physician’s Review) in the columns of which studies in the field of the philosophy of medicine close to the discussed trend was published. Its feature was understanding the philosophy of medicine as a section of general philosophy (rather than, as in the trend discussed above – philosophical interpretation of clinical practice). The Polish authors mentioned here studied or supplemented their education in Germany, drawing from a tradition of that idealistic philosophy with metaphysical focus. In the first half of the 20th century, this trend was continued periodically in Polish academic life. In the years 1919-1924, in the program of medical studies of five universities existing in the revived Poland the idealistic philosophy of medicine was lectured, referring to German standards. However in 1924, this course was liquidated and the development of the philosophical erudition of Polish doctors was left to lecturers of general philosophy (in Poland before 1939, doctors had in their educational program an extensive course of the history of philosophy, conducted according to textbooks by Polish authors, including the most prominent one, Prof. Władysław Tatarkiewicz; after 1918 Polish academic philosophy was an original phenomenon and attained a dominant school – the Lviv and Warsaw school, and trends competing with it based on different assumptions). With respect to professors of Polish universities in the 20th century deriving their theoretical views from the described school in the philosophy of medicine, we should mention Władysław Szumowski<sup>9</sup> (professor at the University of Cracow, lecturer in medical history, author of the textbook on this topic reprinted until now and monograph about the philosophy of medicine) and Stanisław Trzebiński<sup>10</sup> (professor at the University of Vilnius, lecturer in medical history).

All authors mentioned above, apart from Jędrzej Śniadecki, who was a well known personage in medicine in Central Europe in the first half of the 19th century, had only local importance in the history of European science. Their views are important for the shaping of humanist reflection, including philosophical reflection, only in the Polish doctors’ environment<sup>11</sup>. The reception of the achievements of the only Polish doctor-humanist – Prof. Ludwik Fleck<sup>12</sup> – whose influence obtained world reach in the second half of the 20th century and maintain it also now is different.

Ludwik Fleck was a pupil of an outstanding Polish microbiologist, Prof. Rudolf Weigl<sup>13</sup>. He graduated from medical studies in Lviv and for one year worked in the University of Lviv under his direction. Later (from 1922 until 1939) he worked outside the University, conducting independent scientific research in the field of microbiology. After the Second World War, he was a professor of microbiology at the University of Lublin, in the years 1951-1956 professor at the Polish Academy of Sciences in Warsaw. In the years 1956-1961 he lived in Israel where until his death he was carrying out research in the area of microbiology. Prof. Fleck left considerable scientific output in this field but this is not what made him famous in the world after his death. He earned his position in world science by his views in the field of the humanities, and more specifically in the philosophy of science and methodology of historical research. Already in the thirties of the 20th century, Fleck published his most important studies in this field, including the work entitled *Entstehung und Entwicklung einer wissenschaftlichen Tatsache. Einführung in die Lehre vom Denkstill und Denkkollektiv* (Basel 1935), in the second half of the 20th century reprinted and translated, including into the English language<sup>14</sup>. The author of the most important monographs dedicated to discussion of the person and output of Fleck is Thomas Schnelle<sup>15</sup>. During the last half century, Fleck’s methodology lived to see several schools of interpretation in Europe, in Switzerland there is an institute dedicated to the analysis of his work, in Poland a website was created on which information concerning the reception of Fleck in literature and one’s own articles about him can be placed<sup>16</sup>. The world career of Fleck results from interest in his concept and inspirations drawn from Fleck’s methodology by Thomas Samuel Kuhn<sup>17</sup>.

Apart from Weigl, the opinions of Ludwik Fleck were influenced by another professor at the University of Lviv, Włodzimierz Witold Ziembicki, medical historian and clinician, as well as a gro-



up of outstanding Lviv philosophers, including Kazimierz Ajdukiewicz<sup>18</sup>. Combining in one whole experience from his own clinical practice, inspirations derived from philosophical reading, interest in the history of medicine, including the field that he practised on his own – microbiology, Fleck undertook to formulate his own original concept of philosophy of science which was to overcome the shortcomings of the positivistic tradition and at the same time to defy metaphysical speculations and concepts isolated from real practice that he observed in scientific theory in the thirties. In the opinion of Fleck, while creating the new contemporary philosophy of science, first of all the practice of science should be observed in order to conclude how it is carried out by practising scientists, rather than philosophers and historians writing about their activities. By subjecting his own practice to methodological reflection, Fleck formulated on this basis a program of research regarding science which referred with its roots to the views of clinicists from the first half of the 19<sup>th</sup> century, presented by me at the beginning of this article. Fleck's own cognitive experience was just clinical experience, defined in the same way as was done by his clinical predecessors. Summarizing the most important postulates of Fleck, we can notice this similarity. Fleck assumed that: 1) beyond us, as recognizing personal subjects, there is a natural world which is governed by objective rules; 2) researchers investigating this world – scientists – do not reach it directly but by the mediation of theories which specify what they can see and define the manner of recognition, rules binding for the scientist; 3) all these elements form the thinking style of a given group of scientists, developed in a collective way by assembling subsequent recognized elements according to a specified rule 4) it is not possible to investigate the world outside the established rules of recognition, we always learn it according to the rules and we create an image of the world that these rules allow 5) images of the same world created according to a different rule will not be incommensurable with each other.

The theoretical program of Fleck was basically consistent with the Evidence Based Medicine standard, both in times contemporary to him and currently. This scientist assumed that scientific society may create many mutually exclusive hypotheses concerning the adjacent natural reality, created according to specific rules. If these hypotheses do not encounter any resistance from the surrounding world, it means that their nature is completely speculative. However, if it turns out to be possible in some way to refer to the reality that they interpret, it means both that the fragment of reality described by the given hypothesis is regarded as existing according to the given rule, and that the hypothesis formulated on this basis is regarded as describing this fragment in an adequate way. According to Fleck, science is a living system. New rules of recognition, allowing formulation of hypotheses, are created on a continuous basis. These hypotheses are subjected to evaluation by specialists and if they obtain their acceptance, they are implemented in science as reflecting the state of affairs in a realistic way i. e. based on facts. However, in the opinion of Fleck, facts have a historical status. Scientific knowledge changes, not only at the level of hypotheses, but also at the level of the facts from which these hypotheses are derived. Therefore, scientific knowledge is always a social and historical construct, created by scientists in a specific thinking style, determining what can be regarded as a scientific fact and concluding further consequences from it. Fleck's program was an extrapolation of the standard of clinical medicine into other sciences. In the opinion of this scientist, it invalidated traditional questions of philosophy and allowed the development of the comparative history of science, the field to Fleck's mind having essential practical importance. The theoretical reflections of Ludwik Fleck can be regarded as an extension of the Polish output of the 19<sup>th</sup> century school of the philosophy of medicine, and the contemporary popularity of his views can be an inspiration for research concerning their historical sources derived from indigenous scientific and philosophical traditions.



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