

## **From realism to neo-Kantianism. The case of Aleksander Świątochowski - the leader of Polish positivism**

Aleksander Świątochowski (1849-1938) can undoubtedly be considered as the leader of Polish positivism. That intellectual movement, initiated about 1864 after the defeat of the January Insurrection, became the most influential trend of philosophical thinking in Poland (especially in the Congress Kingdom, the Polish province annexed by the Russian Empire) in the 70's and 80's of the 19th century. The evolution of Świątochowski's thought seems to show the general development of positivist philosophy which had been codified by Auguste Comte and had implied, at least in its founder's version, the thesis of metaphysical and epistemological realism. However, positivism was then modified by many tendencies of natural sciences. In particular, it was influenced by the variants of neo-Kantianism which were widely spreading in German philosophy and in natural sciences (Friedrich Albert Lange, Hermann Helmholtz, Hermann Cohen and many others).

Świątochowski declared his full adherence to positivism in two articles printed in 1872 in "Przegląd Tygodniowy", the main organ of Warsaw positivists. The first one was entitled *Herbert Spencer (Stadium z dziedziny pozytywizmu)* [*Herbert Spencer (The Analysis of Positivism)*] and the other - *Auguste Comte i Herbert Spencer (Auguste Comte and Herbert Spencer)*. In these early works Świątochowski characterized positivism not only as a nineteenth century philosophical movement, but also - and first of all - as "the scientific method which is based on experience and natural science, and which still yields new results"<sup>1</sup>. The author took then for granted the main thesis of metaphysical realism that the physical world exists objectively and is therefore quite independent of human mind. In *Herbert Spencer (The Analysis of Positivism)*, there is a point that Spencer's famous idea of evolution cannot be regarded as an example of metaphysical or speculative thinking, for it was founded on observation and empirical data:

Here (in Spencer - T.S.) it is being made by itself - the human mind does not impose it on facts, on the

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<sup>1</sup> Al. Świątochowski, *August Comte i Herbert Spencer. IV*, 'Przegląd Tygodniowy' 1872, no. 31, p. 247.

contrary - the facts produce it in mind.

Its ground is a mass of empirical evidence<sup>2</sup>.

Similarly, Newton's law of gravitation turns out to be the law of nature which had been discovered and meticulously formulated by the genius of Newton.

For Newton to be able to know the world system, it was necessary for his ideas of nature, order and sequence to correspond to nature and to cohesion of reality; what was inside his ideas should be related to what is outside<sup>3</sup>.

There is no doubt that Świętochowski implicitly accepted the correspondence theory of truth which had been commonly adhered to by many positivists, even though they neglected the discourse upon metaepistemological problems. The situation changed in the 60's when neo-Kantianism, stimulated by German philosophers and scientists, had spread over the European philosophy and natural science area and strongly influenced methodological and epistemological strategies. "Back to Kant", as this movement was called, had been an adverse tendency to Comtian neglect of epistemology. Świętochowski had an opportunity of studying at the University of Leipzig from 1874 to 1876 (he graduated with a doctorate in philosophy)<sup>4</sup>.<sup>4</sup> In 1881 Friedrich Albert Lange's famous book *The History of Materialistic Philosophy* was translated into Polish<sup>5</sup>. It was Świętochowski who translated the second volume of the book.

Yet earlier, in 1876, the leader of Polish positivism provoked a lot of controversy. He published an essay *Dumania pesymisty (The Pessimist's Thought)* which had little in common with the optimistic variant of Polish positivist ideology. The work openly raised the question of the main rules of positivist philosophy.

On the whole, *Dumania pesymisty (The Pessimist's Thought)* consists of many trains of thought. The first essay of the book, entitled *Secrets of Knowledge*, is devoted to

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<sup>2</sup> A. Świętochowski, *Herbert Spencer (Studium z dziedziny pozytywizmu)*, 'Przegląd Tygodniowy' 1872, no. 15, p. 114.

<sup>3</sup> *Ibid.*, no. 25, p. 197.

<sup>4</sup> He was listening to lectures by famous German scientists (e.g. by Wilhelm Wundt and Wilhelm Windelband). Even after years, he used to reminisce his stay at University of Leipzig. See M. Brykalska, *Aleksander Świętochowski. Biografia*. Vol. 1, Warszawa 1987, p. 117-118.

<sup>5</sup> That work was regarded as the great manifestation of neo-Kantianism.

metaepistemological and metaphysical problems. Four years earlier, in his article *Herbert Spencer (The Analysis of Positivism)*, Świątochowski had still been an adherent of the author of *First Principles* who restricted the attainable area of human knowledge to the empirical phenomena producing ground for scientific theories. In accordance with Spencer, the Polish thinker claimed that ultimate questions about the nature of reality and about metaphysical ideas (for instance, such fundamental issues as - matter, motion, space time, God, the first cause) become unanswerable. Now, in 1876, even scientific truths, empirically and rationally verified, had been subverted from the skeptical point of view. An ex-agnostic and ex-phenomenalist, Świątochowski wrote in a different way:

To be constantly addicted to a passion for knowing and not to be sure of its results, always to ponder the existence and not to fathom its essence, never to research the nature of reality, to tantalize desires with science and not to be able to achieve any - is a torment that robbed a human of more happiness and brought him more anguish than many crosses on which they were crucified<sup>6</sup>.

The rule of relative and approximative cognition, which basically determined the positivist epistemology and its theory of science, had been here broadened into the whole human knowing and, in Świątochowski's interpretation, yielded skeptical results only. In his opinion, there is no undoubted ground on which any facts or truths can be established. Universal and certain knowledge, providing a coherent world view, is simply unattainable for human being, and lacks justification. All we can know is just a solipsistic illusion of our minds.

Is there in our human knowledge at least one conception of whose veracity we would be convinced? By no means! It was more than two thousand years ago when European philosophy gave its terrible verdict on our knowledge which allows us to know things in such a way only as they are observed by us, not as they exist objectively, independently of us. Since we know only the world of our representation, all the objects are a construct of our mind<sup>7</sup>.

Though neo-Kantian transcendental idealism assumed that a priori and necessary conditions of human experience are determined by the constitution of mind itself, especially by a priori physiological features, yet its adherents regarded the results of knowing as reliable, general

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<sup>6</sup> A. Świątochowski, *Dumania pesymisty*. Opracowanie i wstęp E. Paczoska, Warszawa 2002, p. 33.

<sup>7</sup> *Ibid.*, p. 34.

and necessary ones. The physiological variant of neo-Kantianism, to which scientists and philosophers such as Hermann Helmholtz and Friedrich Albert Lange belonged, promoted the idea that the common human psycho-physiological constitution had been subsequently formed at the stages of evolution. According to Lange:

While general physiology [...] more and more consequently was showing life as an embryo of mechanistic processes, the careful consideration of sensation and senses in relation to their nature and to the way sense organs act allowed us to conclude that the same mechanistic necessity, which determines all the physical evidence, also forms our imagination and sensation that are reducible to human physiological constitution, though their cause lies in the external physical world (that world itself is obviously beyond our knowledge - T.S.). Physiology of sense organs is a modified or even improved Kantianism [...]<sup>8</sup>.

Yet Świątochowski finally questioned the possibility of justification of objective knowledge provided by the physiological variant of neo-Kantianism. The Polish thinker emphasised skeptical arguments. The central metaepistemological argument of *The Pessimist's Thought* was the idea that one cannot verify positively the statement that human knowledge includes any fundamental and unquestionable truths.....

Moreover, Świątochowski had transposed these ideas onto a metascientific area. For instance, in *The Pessimist's Thought* veracity of conceptions applied in natural sciences had been generally subverted by depriving them of a real equivalent in nature.

[...] let us consider - Świątochowski wrote - that all conceptions [...] are the construct and the combination of our mind. Perhaps in reality something else happens, perhaps quite different phenomena occur. We do know only the world of our mind, relating to the real one, but maybe entirely disparate. The conceptions such as: matter, motion, force and cause seem to be some forms of consciousness in which the outside world phenomena appear. All our language is just an artificial classification of objects and phenomena<sup>9</sup>.

A problem appears whether Świątochowski's antirealism can be connected with Hermann Helmholtz's famous theory of symbols (hieroglyphs) which had been expounded in *Physiological*

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<sup>8</sup> A. Lange, *Historia filozofii materialistycznej i jej znaczenie w teraźniejszości*. Przełożył z trzeciego niemieckiego wydania F. Jezierski. Vol. II, Warszawa 1881, p. 384-385.

<sup>9</sup> Świątochowski, *Dumania pesymisty*, p. 39.

*Optic* (1856-1866). Helmholtz, one of the founders of the law of conservation of energy, argued that human representations of the world, produced in the visual system from sensation caused by light, are symbols of outside objects which themselves cannot be known. The essence of a subject's experience does not resemble objective things, though it shows some relations which correspond to relations of those things and their features.

Like Helmholtz and the whole physiological variant of neo-Kantianism, Świątochowski promoted the thesis that human's representation is determined by their physiological basis. It seems that there is a correlation between Helmholtz's theory of symbols and Świątochowski's forms which - like force, matter, motion and cause - comprise groups of sensations caused by natural (physical) phenomena system and relations between them.

There is no doubt that the Polish thinker was inclined, although, of course, without theoretical awareness, to the metascientific views which were later formulated by Emile Boutroux in his conception of contingency and conventionalism, constructing an important European current of philosophy of science in the 80's and 90's. Its adherents were of the opinion that laws of science should not be acknowledged to be objective, universal, necessary and invariable ones.

Świątochowski, for instance, paid attention to the second law of thermodynamics that had been formulated by two famous 19th century scientists, Hermann Helmholtz and William Thomson (Lord Kelvin). That principle claims that in nature there is a permanent tendency for mechanical energy to dissipate. In fact, Świątochowski was far from asserting that it has to be acknowledged to be certain and constant. He even suggested that the second law of thermodynamics was only relatively true and dependent on a current state of that science, and compatible with the concept of heat. On the one hand, he undoubtedly rejected the substantial theory of heat and admitted that there is an equivalence between heat and mechanical work while regarding heat as a form of energy (it was an obvious consequence of the first law of thermodynamics), but on the other hand, he speculated about the possibility of refutation of the second law of thermodynamics. In *The Pessimist's Thought* he wrote:

Let only science substitute the term heat for an unknown motion of ether, let the activity of this motion reveal a new rule, Thomson's law will lose its validity. In the same way each rule of science can be questioned. There are laws for gases, liquids, electricity and magnetism. But since the conceptions of gas and of liquid change, laws

applicable to them will be annulled<sup>10</sup>.

It is interesting that Świątochowski mentioned a possibility of thermal death of the Universe as an unavoidable result of the second law of thermodynamics. That idea became quite popular at the turn of the 19th century when decadence and catastrophic moods were spread all over Europe. Świątochowski did not use the term "entropy" which had been introduced by Rudolf Clausius in 1865. Entropy, a thermal quantity, is the measure of the amount of energy (or, in another meaning, order) in a system. It reaches a maximal level when an isolated system yields a state of thermal balance. Yet the Polish author himself was considering the hypothetical consequence of the second law of thermodynamics:

[...] the physical rule [...] even suggests the most probable hypothesis for the end of the world, predicting a general balance of temperature all of the elements that would cause the world motion to cease<sup>11</sup>.

That hypothesis implied a conception of irreversibility of time which intensified catastrophic moods and a sense of an approaching end of the Universe (it would have happened if the temperature of all objects had become equal and, hence, all the energy had dissipated). A half century after the publication of Świątochowski's essay, an English astrophysicist, Arthur Addington, called entropy "The Arrow of Time", since its increase, proportionally to the passage of time, causes permanent dissipation of energy.

Despite the fact that Świątochowski opposed regarding scientific conceptions as equivalents of real objects (phenomena, processes) and refused laws of science being universal, necessary and objective, his episteme was still, at least in some aspects, determined by the paradigm of classical Newtonian physics and its implications, for instance, by mechanistic determinism.

Abandoning skepticism, the author of *The Pessimist's Thought* claimed that in the Universe there only work laws which are based on causality. Therefore, everything is strictly determined.

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<sup>10</sup> *Ibid.*, p. 43.

<sup>11</sup> *Ibid.*, p. 42.

Each phenomenon is just a result, each result has its cause, each cause is a result of another cause, so anything we call the aim of being is a necessary consequent of a predecessor, a necessary result of a cause<sup>12</sup>.

Such ideas still belonged to the traditional positivist epistemology and methodology of science. They also founded a metaphysical hypothesis (implying, in fact, a realistic point of view), suggesting that reality has a natural and objective order which can be explored in the course of scientific knowing.

Like all neo-Kantians, Świątochowski as the author of *The Pessimist's Thought*, denied the possibility of getting to know things in themselves and thus, obviously, subscribed to an agnostic epistemology (typical both of positivism and of neo-Kantianism). His epistemological and metascientific views, also on the nature of scientific notions (e.g. matter, force, motion), were related to Emil du Bois Reymond's opinion on the philosophy of science and its metaphysical implications. In his famous *Über die Grenzen der Naturerkenntniss (On the Limits of Knowing of Nature, 1872)*, the German physiologist characterized the result of human knowledge as "a surrogate for an explanation of nature" which is not grounded on any correspondence between thought (idea) and nature (reality).

Although there is no evidence of the direct influence of du Bois Reymond's views on Świątochowski, it is easy to notice a similarity between them. It is manifested in the area of epistemology and the philosophy of science.

The evolution of Aleksander Świątochowski's thought demonstrates interesting changes of Polish positivism. In some aspects, this paradigm was transformed into an idealistic model of neo-Kantianism. Świątochowski's *The Pessimist's Thought* was of great importance to the transformation, reflecting on such processes as, for instance, a rejection of metaphysical and epistemological realism. Having negated a model of objective, necessary and universal laws of science, the Polish positivist paved the way, at least partially, for the more progressive trends of the philosophy of science.

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<sup>12</sup> *Ibid.*, p. 57.

