

Truth, reality and science in the views of American pragmatists with regard to Charles S. Peirce and William James

JEL classification: I20

Słowa kluczowe: pragmatism, truth, science, scientism, Ch. Peirce, W. James, paradigm, conventionality, usability

Keywords: pragmatyzm, prawda, nauka, naukowość, Ch. Peirce, W. James, paradygmat, konwencjonalność, użyteczność

Abstract: Charles Peirce is considered one of the greatest logicians in the entire recorded history of mankind. Peirce, in a consistent and free from naive realism way, showed the superiority of the scientific method over other methods of overcoming doubts and verification of the common, but unsubstantiated views. According to Peirce, scientific paradigm imposes a flowchart that can be divided into three consecutive phases. First, the initial conjecture is making or formulating hypotheses. The next two — induction and deduction — are designed to examine a particular segment of reality and verify the initial assumptions. Driven by rationality in each of these phases, one has to bear in mind the economy and efficiency of research. Published in 1907, *Pragmatism* constitutes an ideological manifesto in which William James presented six main approaches to the concept of pragmatism: the theory of truth, the theory of meaning, the overall achievements of knowledge, a metaphysical point of view, the method of solving philosophical disputes, and finally, a kind of philosophical temperament of researcher. The truth, according to James, is a kind of good, like e.g. health, happiness and money. The truth leads man to useful concepts and terms in a given situation while protecting him from the wrong, fruitless and futile way of thinking. Truth is not absolute. The criterion for the truth is its usefulness for man. A large part of the views of American pragmatists found their way into the currently dominant scientific paradigm. The contribution of these thinkers to the development of the theory of science as such, cannot therefore be questioned.

Prawda, rzeczywistość i nauka w poglądach amerykańskich pragmatyków na przykładzie Charlesa S. Peirce'a i Williama Jamesa

Abstrakt: Charles Peirce uważany jest za jednego z najwybitniejszych logików w całej historii myśli ludzkiej. Peirce wykazywał wyższość metody naukowej nad innymi sposobami przewidywania wątpliwości i weryfikacji utartych, a niczym niepopartych poglądów. Paradygmat naukowy w ujęciu Peirce'a narzuca schemat działania, który uszeregować można w trzy następujące po sobie fazy. Pierwszą, wstępną jest czynienie przypuszczeń czy stawianie hipotez. Następne dwie — indukcja i dedukcja — mają za zadanie zbadanie danego wycinku rzeczywistości i sprawdzenie założeń początkowych. Kierując się racjonalnością w każdej z tych faz, trzeba mieć na uwadze także ekonomię i efektywność prowadzonych badań. Wydany w 1907 roku *Pragmatyzm*, stanowiący światopoglądowy manifest Williama Jamesa, przedstawiał sześć głównych ujęć tytułowej koncepcji: jako teorię prawdy, teorię znaczenia, całościowy dorobek wiedzy, metafizyczny punkt widzenia, sposób rozwiązywania filozoficznych sporów i w końcu swego rodzaju filozoficzny temperament autora. Prawda zdaniem Jamesa jest rodzajem dobra, podobnie jak np. zdrowie, szczęście czy pieniądze. Prawda prowadzi człowieka ku użytecznym w danej sytuacji pojęciom i terminom, chroniąc go jednocześnie od błędnego, jałowego i daremnego sposobu myślenia. Prawda nie ma charakteru absolutnego. Kryterium prawdziwości jest użyteczność dla człowieka. Znaczna część poglądów amerykańskich pragmatyków weszła do obecnie dominującego paradygmatu naukowego. Wkład tych myślicieli w rozwój teorii nauki jako takiej nie może być zatem kwestionowany.

Introduction

Science seems to us today an integral part of culture or, more broadly, of human civilization. We like to think that the origins of science date back to the writings of ancient philosophers. However, when we look more closely at this issue, we will discover that the origins of science and the scientific method, in the sense that we now give to these terms, do not go back that far into the past, though it might seem so. In fact, its roots can be traced only in the Renaissance, especially in the works of one of the leading representatives of this period — René Descartes.

In times of Descartes' youth, although the scholastic period expired long before, humanistically oriented Renaissance had only modest achievements in the area which we would today call science. The main works of Galileo and Kepler had not been written yet. The real breakthrough was yet to come. Descartes realized the challenge lurking in this situation and he made the renewal of science through basing it on solid methodological and philosophical grounds the purpose of his life. He did it so effectively that it was the beginning of a new period in the methodology of science, and the entire European philosophy.¹

Descartes concluded that the reform of science should begin with "ascertain[ing] the true method by which to arrive at the knowledge of whatever lay within the compass of my powers."²

¹ J. O'Connor, E. Robertson, *Kartezjusz*, MacTutor History of Mathematics archive, <http://www-history.mcs.st-andrews.ac.uk/Biographies/Descartes.html> (date of access: 23 December 2013).

² R. Descartes, *Discourse on the Method of Rightly Conducting the Reason, and Seeking Truth in the Sciences*, Project Gutenberg, <http://www.gutenberg.org/files/59/59-h/59-h.htm> (date of access: 10 August 2015).

This method was proposed in the form of four rules:

The first was never to accept anything for true which I did not clearly know to be such [...]. The second, to divide each of the difficulties under examination into as many parts as possible, and as might be necessary for its adequate solution. The third, to conduct my thoughts in such order that, by commencing with objects the simplest and easiest to know, I might ascend by little and little, and, as it were, step by step, to the knowledge of the more complex [...]. And the last, in every case to make enumerations so complete, and reviews so general, that I might be assured that nothing was omitted.³

The views of Descartes, though often heavily criticized and today rejected to a large extent, undoubtedly gave rise to the development of modern methodology by asking the questions of what exactly science is, what characteristics indicate scientificity, how to proceed research and what should characterize the researcher. When we talk about the historical development of philosophical views on science, which followed the above-mentioned Age of Enlightenment scholar, we should include representatives of the so-called Vienna Circle, which in their work alluded to Descartes. These people, active in the 1920s at the University of Vienna, were grouped together around the Department of Philosophy and History of Inductive Sciences chaired by Moritz Schlick. The members of the Vienna Circle advocated for the removal of all elements of metaphysics from philosophy and for making it a kind of metascience that would be the methodology of science.⁴ The Vienna Circle adopted from Descartes the love for mathematics, coming from it on the basis of logic, which in their view had become a language common to all fields of science.⁵

Among the most important concepts in the methodology of science in European literature one can usually find also Karl Popper and his point of view critical of analytic philosophy and based on the creation of hypotheses,⁶ theory of scientific paradigm, created by Thomas Kuhn and then developed by his followers,⁷ Imre Lakatos' views,⁸ and finally the work of Paul Feyerabend *Against Method* which opposed each research method and the entire methodology.⁹ Such recognition is, according to the author, incomplete. This is because it omits the contribution brought to the development of the methodology of science by American philosophical pragmatism. This contribution was due to, in particular, two of its prominent representatives — Charles Sanders Peirce and William James. As it

³ Ibid.

⁴ L. Wittgenstein, M. Schlick, *Ludwig Wittgenstein and the Vienna Circle: Conversations*, Oxford 1979, p. 20ff.

⁵ S. Sarkar, *The Legacy of the Vienna Circle: Modern Reappraisals*, Harvard 1996, p. 77ff.

⁶ K. Popper, *The Logic of Scientific Discovery*, New York 2002, p. 27ff.

⁷ T. Kuhn, *The Structure of Scientific Revolutions*, Chicago 1996, p. 43ff.

⁸ Further information see: I. Lakatos, *The Methodology of Scientific Research Programmes, Philosophical Papers*, vol. 1, Cambridge 1978.

⁹ Further information see: P. Feyerabend, *Against Method*, London 1988.

seems, the views expressed by these thinkers, formed in the late nineteenth and early twentieth centuries, i.e. even before the establishment of the Vienna Circle, despite the passage of time to a large degree have not lost their relevance, as evidenced by their proximity to significant contemporary research practice.

Charles Sanders Peirce was a very versatile man and he undoubtedly deserves to be called a Renaissance man. His interests ranged from philosophy, to mathematics, to chemistry, to surveying, to statistics and logic, to psychology. Benjamin Osgood Peirce, Charles's father, had a big impact on his intellectual development. He was a lecturer at the Harvard University and one of the founders of the Smithsonian Institution — the world's largest museum complex.¹⁰ Benjamin Peirce personally supervised the education of his son. It is his merit that Charles, at the age of 12, read the whole textbook of logic by Bishop Richard Whately. This book had a great impact on the further intellectual development of Charles Peirce. The fascination with logic and analytical approach to the surrounding reality should always be visible in the rich literary output of this father of pragmatism. It is enough to say that the researchers believe that he is not only the greatest logician of his time, but also one of the finest in the entire recorded history of mankind.¹¹

One of the most famous works of Charles S. Peirce are the first two of a series of six articles, published under the collective name *Illustrations of the Logic of Science* in the magazine *Popular Science Monthly*. In the first of these texts, entitled "The Fixation of Belief" the author, in a consistent and free from naive realism way, showed the superiority of the scientific method over other methods of overcoming doubts and verification of the common, but unsubstantiated views. In the second article, entitled "How to Make Our Ideas Clear," Peirce defended a pragmatic recognition of the idea of pure concepts. To understand pragmatism in terms of the thinker, one must bear in mind that for most of his life he was an active professional scientist and researcher. Charles Peirce spent over 30 years working in the United States Coast and Geodetic Survey, which, like a passion for logic, affected the whole of his oeuvre.¹²

Peirce granted for both philosophy and logic a place among other sciences, such as mathematics, chemistry or physics. However, due to this, his philosophy was the philosophy of science and his logic — the logic of science. According to him, logic and philosophy were nothing more but tools for science and scientists. The same is true of pragmatism, which, as Peirce believed, remains in a strong

¹⁰ <http://www.si.edu/About>, site owner: The Smithsonian Institution (date of access: 6 March 2013).

¹¹ M. Fisch, *The Writings of Charles S. Peirce: A Chronological Edition*, Bloomington 1982, p. XVIII.

¹² J. Brent, *Charles Sanders Peirce, Revised and Enlarged Edition: A Life* (Enlarged Edition), Bloomington 1992, p. 26ff.

relationship with science. To further emphasize this relationship, and clearly separate his views from others ideas, which in his opinion, were “smuggled,” under the banner of pragmatism, Peirce began to use the term pragmatism in relation to his perceptions. Thus, when he argued that the whole point of a concept exists in the set of its practical consequences, he meant that in his opinion a “significant” concept has to necessarily have some empirical “value.” It must relate to the data obtained from empirical observation that is possible to perform under particular terms.¹³

When we analyze the works of Charles S. Peirce, we come to the conclusion that in a way he believed in the reality of abstract concepts and that his way of thinking about universal terms even comes close to medieval metaphysics. On the other hand, his views on physical (and therefore non-abstract) beings are close to operationism and verificationism, and very similar to claims made later by Albert Einstein. Peirce claimed that the whole point of physical beings is dependent on the accuracy of the methods used in their measurements. These are compounded by the fact that over the years, Peirce showed an increasing inclination for idealism in both forms — transcendent and absolute. Researchers studying Peirce’s works pay attention to his evident references to the Kantian thought and works of Georg Hegel. It seems that his relationship with Kant is simpler and easier to understand than the variety of references to the works of Hegel.¹⁴ Although Peirce rejected many parts of Kantianism, like Charles Renouvier, he shared the view, according to which the Kantian conception of things in themselves (German *Ding an sich*) can perform, both in philosophy and in the entire science, only the role that was eventually assigned to it by Kant himself — a kind of a border. The supposed “reality” is beyond any logical possibility, as well as beyond any logical or empirical relationship and cannot play a direct role in science, precisely because of the “unknowableness.” Science, understood in the way in which Peirce understood it, may in fact only deal with the phenomenon, which is something that may in some way exist experimentally. The author therefore refused areas of scientific method and does not satisfy this requirement. (See above for the comments on the understanding of the concepts of philosophy and logic adopted by Peirce.) For this reason, his philosophical realism can also be called empirical.¹⁵

Peirce also made an attempt to formulate the definition of reality. He stated that “reality can be defined as something where objects remain independent from

¹³ N. Houser, Ch. Kloesel (eds.), *The Essential Peirce*, vol. I, Bloomington 1992, p. 132.

¹⁴ <http://plato.stanford.edu/entries/peirce/#prag>, site owner: Stanford University (date of access: 24 November 2013).

¹⁵ <http://www.peirce.org/writings/p119.html>, site owner: Indiana University School of Liberal Arts (date of access: 6 March 2013).

everything. Anyone could think about their properties.”¹⁶ Reality is clear to children, which, according to Peirce, perceive it categorically, without even considering whether their perception could be misleading. However, to understand the theory of reality and truth represented by pragmatists properly, we must bear in mind a maxim, expressed in “How to Make our Ideas Clear,” and then repeatedly quoted: “Consider what effects, that might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object.”¹⁷

The already mentioned aspects of the Hegelian theory inside Peirce’s pragmatism can easily be seen, especially in Peirce’s later works, but it is still a more complex issue. It is so for several reasons. First of all, Hegelianism is inextricably linked to both Peirce’s theory of signs and their use as well as his belief in evolution and the doctrine of the activities of the mind, which he professed. Hegelian idealism, in shape to which Peirce alluded, consisted of four basic elements. The first is the world of the “shown” or the “revealed” (Greek *phaneron*) which consists entirely of signs. Signs are the characteristics, relationships, functions, objects, events, states, correctness, customs, laws, etc., which have a meaning (sense), importance or are subject to interpretation. The second element is a certain triad of concepts. The sign is one of them. The others are the subject and the act of interpretation. The subject, as you can guess, is the thing the sign indicates as “marked.” While it is difficult to define precisely what Peirce understood by the act of interpretation, it was without a doubt something intellectual — an act of the mind, its status, ability or trait. In any case, it was something which allowed to combine an object marked with a sign. Third, the act of interpretation, necessarily, in itself, must be a sign, and a sign of the same object which was shown by a sign subjected to this act. It is a mental and intellectual aspect that distinguishes it from the original sign. But also for this one, as it was transferred to the plane of mental processes, a sign must be there an act of interpretation. And so on, to infinity. This means that any sign pointing to any object in a world defined by Peirce’s term ‘phaneron’ must be associated with the existence of an infinite sequence of mental acts of interpretation.¹⁸

The fourth Hegelian accent is evolution. Peirce believed that the world was revealed (manifested) in the above-described shape and it is consistently and constantly evolving. It is no wonder, if one takes into account that both his development and the whole intellectual atmosphere of the times in which he lived, apart from Hegel’s philosophy, interacted with Darwin in biology and Lyell in geology (which, as we already know, Peirce had a lot in common with). All mentioned thinkers repeated the same concept: evolution. Peirce abstracted and generalized

¹⁶ N. Houser, Ch. Kloesel (ed.), *The Essential Peirce*, vol. II, Bloomington 1998, p. 138.

¹⁷ *Ibid.*, p. 132.

¹⁸ N. Houser, *The Scent of Truth*, “Semiotica” 1/4, 2005, no. 153, pp. 455–466.

the impact of evolutionary processes. In his view, the whole universe that is perceived by us is subject to constant evolution, which means that there is nothing immutable. Even natural laws are the result of, and subject to evolution. This observation leads Peirce to the conclusion that the rights of the universe not only can be, but also, like everything else, should be the subject of scientific and philosophical research. According to this view, it is possible to locate the evolutionary reason or justification in every natural law.

What distinguishes Peirce from Hegel is the consistency with which the first used his beloved logic to present the grounds for his views. This father of pragmatism put a lot of effort into making the appropriate inferences to support and clarify even the most complex issues. All the time using the apparatus of logical empirical sciences.¹⁹

One of the consequences of faith in the endless string of acts of interpretation and signs is the rejection of all forms of epistemological fundamentalism and faith in the absolute, or any kind of undeniable truth. Throughout his entire intellectual activity Peirce attacked every manifestation of these phenomena, especially Cartesianism and *a priori* reasoning in all its forms. This is related to his understanding of philosophy, which, as he would have called it, “should start where it happens to be at the moment”²⁰ and not derive itself from any allegedly perfect foundation. Scientific thinking can be reduced to the application of the scientific method. This method, which is characterized by openness, transparency and consistency, is also verifiable. Irrespective of the “starting point” adopted by the researcher, as long as he follows the scientific paradigm he must always come to the same conclusions. The concept of the importance of Peirce presupposes that two scientific theories, having as their object the same object (in a certain sense, this object is always the same reality around us) must also have the same meaning, and consequently the result.²¹ Since that tangential point, which converges all scientific theories of reaching the same meaning Peirce defines as “truth,” this word is also synonymous with the reality within all these theories existing. This is another proof of the idealistic nature of realism adhered by this thinker.

Despite his faith in scientism, Peirce, guided by his anti-fundamentalism, emphasized the fallibility of science and lack of confidence in its discoveries in various fields in his works. Although he accepted that science once inevitably reaches the maximum possible knowledge in all areas, he also claimed that up to this point it will be still far away. As it is impossible to even define the distance separating us from the maximum state of knowledge, theories existing in each of the fields of science in the present should be considered temporary, and therefore necessarily erroneous. Nonetheless, the optimistic belief in the lack of boundaries of human

¹⁹ Ibid.

²⁰ Ch. Hartshorne, P. Weiss (eds.), *Charles S. Peirce, Collected Papers*, vol. I, Cambridge 1931, p. 120.

²¹ Ibid.

cognition of surrounding the inter-subjective reality is what makes Peirce one of the representatives of epistemological naturalism.²²

This belief in the unreliability of human knowledge is also related to other aspects of Peirce's philosophy. The already discussed evolution plays here an important role. It means that science is chasing an evolving reality, and we have not yet learned the laws governing this evolution. In this situation scientific findings must be only temporary, transitory. Basing on erroneous impression you can think that Peirce's views are characterized by a certain epistemological pessimism or skepticism — none of these things. A meaningful conception must somehow be capable of being related to some sort of collection of possible empirical observations under specifiable conditions. In other words, Peirce believed that for every genuine question, which is such whose possible answers have the existing empirical reference, it is possible to find the correct answer. Certainly you cannot assume that such a question is generally unexplained. If at the moment we are not able to find the answer, this might be because of the fact that our knowledge is not yet sufficient to formulate this answer. This assumption is related to one of the most famous sentences by Peirce, called by him the first principle of the rational mind: "Do not block the way of inquiry!"²³

According to Peirce, scientific paradigm imposes a flowchart that can be divided into three consecutive phases. First, the initial conjecture is making or formulating hypotheses. The next two — induction and deduction — are designed to examine a particular segment of reality and verify the initial assumptions. Driven by rationality in each of these phases, one has to bear in mind the economy and efficiency of research. As you can see, the scientific method according to Peirce's approach is analogous to the currently dominant approach. Because of this Peirce, next to William Whewell, is considered to be the father of modern scientific paradigm, which after all boils down to making hypotheses, accepting the necessary consequences of the adoption of these hypotheses and experimentally verifying the assumptions. What is more, they are always guided by economy and maximum efficiency.²⁴

The above three steps in the scientific method are related to the three types of logical inferences distinguished by Peirce. The goal of the first phase, based on the "prejudices" — assumptions existing in the human mind, is to temporarily adopt a hypothesis explaining a phenomenon in order to verify it later. The explanation adopted at this stage may not always be the best, but it exists at least, which means

²² M. Gorozda, *Obrona antynaturalizmu. Wokół myśli F.A. Hayeka*, p. 18, <https://biolawgy.files.wordpress.com/2010/11/obrona-antynaturalizmu-wokol-mysli-f-a-hayeka.pdf>, site owner: Copernicus Center (date of access: 7 March 2013).

²³ *Ibid.*, p. 135.

²⁴ M. Fisch (ed.), *Writings of Charles S. Peirce: Chronological Edition*, vol. I, Bloomington 1982, p. 205–223.

that that which so far has been unexplained and unexpected to us now is not. The deduction phase focuses on drawing conclusions, which should be possible to examine and verifying the consequences of hypothesis adopted earlier if they prove to be true. The induction phase, in turn, is about experiments which are to prove the existence or nonexistence of inferred consequences and it is followed by the falsification of hypotheses by the results.²⁵

Concluding the comments on Charles Sanders Peirce's pragmatism, we need to refer specifically to his postulate of research economy. It is due to its major importance for the entire scientific paradigm. Peirce was well aware of the fact that science and scientific level, projecting both to the actions of individuals as well as whole societies, always operates within a historical, social and economic (in the strict sense of this last term) context. It is this context which makes certain issues of particular relevance so relevant that they need to be dealt with immediately and with great firmness, while this context makes other issues less important and possible to deal with later. It is clear that, in the realities of human communities, the results of some tests may be characterized by great practical importance, while others, although important for the progress of knowledge and the development of specific areas, due to the lack of practical gear can at any given time be put off for later. Resources available to science are in fact always limited, especially in the context of the challenges that scientists are facing. Since the measures necessary for research are expensive and difficult to obtain, it would be irrational to consume them in an ill manner and not take into consideration all the circumstances. The economic effectiveness of science means therefore to account for expenditures in relation to the anticipated profits and benefits which will be possible thanks to the dedication of resources for a particular project. The postulate of the economy of science is indeed a natural consequence of the assumption of rationality of human action.²⁶

The second of the great representatives of pragmatism was born in 1842. William James — an eminent philosopher, psychologist and a pioneer of phenomenology, psychophysicist etched in the history of the world, among others, as the creator of the term “stream of consciousness.” Published in 1907, his *Pragmatism* constitutes an ideological manifesto presenting the six main meanings of this concept: as a theory of truth, theory of meaning, the overall achievements of knowledge, metaphysical point of view, a way of solving philosophical disputes, and finally a kind of philosophical temperament of the author.²⁷

²⁵ N. Houser, D. Roberts, J. Van Evra (eds.), *Studies in the Logic of Charles Sanders Peirce*, Bloomington 1997, pp. 173–193.

²⁶ M. Fisch (ed.), *Writings of Charles S. Peirce: Chronological Edition*, vol. VIII, Bloomington 2009, pp. 248–275.

²⁷ W. James, *Pragmatism*, Cambridge 1979, p. 8ff.

What James understood by the pragmatic temperament is explained already in the first chapter of the above-mentioned work, where he performs the classification of philosophers into one of the two opposing camps — depending on their intellectual or emotional attitude. Pragmatist, as a man and a philosopher, stands somewhere in the middle. According to James, although it is the type of scientist sticking to the facts, it is also one with confidence in human virtues and values, who appreciates spontaneity and faith.²⁸ James presented the pragmatic theory of meaning and direction proposed by this philosophical method of dispute resolution by occupying contemporary philosophers with the problem of... chasing a squirrel. Without going into a more detailed analysis of the case, it must be said that the issue boiled down to whether the person running after pretentious rodent circling around the tree is not circling around the animal itself at the same time. With relation to this question, James says: “Make your distinction, and there will be no room for dispute.” How is proven by the term “about” or “around” in practice can have one of two meanings. Our runner runs to the north, east, south and west of the squirrel, or first passes its head, then the torso and the tail from one side to later see the second half of the animal’s body. If you take one of these meanings and reject the other, and thus distinguish and clarify, the controversy ceases to exist and the answer becomes clear. Also of interest is the pragmatic theory of truth in terms of William James. The truth in his opinion, is a kind of good, like, for example, health, happiness or money. It is this kind of value, because it is thanks to it that we can move without fear towards the future, not risking any unpleasant surprises. Truth leads men towards that what is useful in a particular situation and the concepts of deadlines, at the same time protecting it from the vicious, idle and futile way of thinking.²⁹ The truth, according to James, is not absolute. This is because it arises, or maybe “is produced” in the process of human cognition. On the other hand, the truth is not verified for each particular case. Therefore, as James puts it, it often operates as if “on credit.” This is due to the underlying assumptions of empiricism that the belief validated for an individual case is valid also for the whole group to which that case belongs. The truth should be the rate and direction of our thinking, as validity should play a similar role for the behavior.³⁰

In subsequent chapters of *Pragmatism* James expresses his intentional and in a sense also anthropocentric views. He says that people shape everything: “we carve out constellations, to suit our human purposes.”³¹ However, James admits that every human experience to know the truth meets as well as with the cause of human nature, with resistance factors. We can include both the fallibility

²⁸ Ibid., p. 17.

²⁹ Ibid., p. 103.

³⁰ Ibid., p. 106.

³¹ Ibid., p. 165.

of our experience and all our previous beliefs, and in no way unverified views of the luggage proceed to establish the truth. James assumes that “our truths” are never created out of nothing. On the other hand, the truth will never be completely independent of our humanity. According to the “principle of humanities,” a human contribution to each of our project, experience and reasoning is indelible.³²

Noting the metaphysical aspect of their deliberations, William James emphasizes that for pragmatists reality is in the stage of formation and shaping. For a realist, in turn, the reality is something given, eternal and unchanging. Noteworthy is the fact that in the last chapter of his programme work James presents the position of pragmatism to religion. On the one hand, the author attacks religion in this place for its “transcendental absolutism” involving in no way verifiable attributing merit to God, but on the other, James defended “pluralistic and moralistic religion” based on human experience.

As he himself admits, though, according to the principles of pragmatism coming to the conclusion that the idea of god is in fact satisfactorily in the widest possible sense, we must also accept that the idea is true. The idea proposed by pragmatism is to assume that something is “true” only to the extent that it remains in relationship with our experience. At this point it is worth referring to the criticism of the above presented views of James formulated by Bertrand Russell, which boils down to saying that we assume that the one who believed in this writing also believed in the existence of Santa Claus.³³ You have to agree, however, with James’ defenders rightly stating that such a view is unfair and highly prejudicial. At best, the second prominent precursor of pragmatism would say that the happiness that comes from believing in the saint is important for the truth. This faith could be true in his opinion, only if it were not in obvious contradiction with the essential factors affecting the truth of the opposite. The existence of Santa Claus cannot therefore function as true, because not insulated and functioning in a broader context it would lead to a number of erroneous conclusions and beliefs, not to say downright disappointment.

Conclusion

The views of American pragmatists are particularly interesting for contemporary researchers as they are reflected in contemporary scientific ideas. Peirce showed superiority of the scientific method over other methods of overcoming doubts and verifying common, but unsubstantiated views. His scientific paradigm imposes a flowchart that can still be successfully used in conducting research. Peirce was also the first to attach so much importance to the economy and efficiency of research. In the opinion of William James, truth is a kind of social

³² Ibid., p. 122.

³³ B. Russell, *A History of Western Philosophy*, New York 1972, p. 772.

consensus. Truth is not absolute and the criterion for the truth is its usefulness for man. Adopted on the basis of science belief of a non-deterministic nature of reality, combined with the view that the progressive increase in knowledge will someday lead to formulating the theory describing all of the physical phenomena, fit into the views propagated by thinkers such as Peirce and James. It is hard to downplay the contribution of pragmatists into the formulation of the assumptions of modern scientific paradigm as well.

References

- Brent J., Peirce Ch.S. (Enlarged Edition), *Revised and Enlarged Edition: A Life*, Bloomington 1992.
- Descartes R., *Rozprawa o metodzie właściwego kierowania rozumem i poszukiwania prawdy w naukach*, przeł. T. Żeleński-Boy, Kęty 2002.
- Feyerabend Paul, *Against Method*, London 1988.
- Fisch M. (ed.), *Writings of Charles S. Peirce: Chronological Edition*, vol. I, Bloomington 1982.
- Hartshorne Ch., Weiss P., Pierce Ch.S., *Collected Papers*, vol. I, Cambridge 1931.
- Houser N., *The Scent of Truth*, "Semiotica" 1/4, 2005, no. 153.
- Houser N., Kloesel Ch. (eds.), *The Essential Peirce*, vol. I, Bloomington 1992.
- Houser N., Kloesel Ch. (eds.), *The Essential Peirce*, vol. II, Bloomington 1998.
- Houser N., Roberts D., Van Evra J. (eds.), *Studies in the Logic of Charles Sanders Peirce*, Bloomington 1997.
- James W., *Pragmatism*, Cambridge 1979.
- Kuhn Th.S., *The Structure of Scientific Revolutions*, Chicago 1996.
- Lakatos I., *The Methodology of Scientific Research Programmes, Philosophical Papers*, vol. 1, Cambridge 1978.
- Popper K., *The Logic of Scientific Discovery*, Routledge 2002.
- Russell B., *A History of Western Philosophy*, Nowy York 1972.
- Sarkar S., *The Legacy of the Vienna Circle: Modern Reappraisals*, Harvard 1996.
- Wittgenstein L., Schlick M., *Ludwig Wittgenstein and the Vienna Circle: Conversations*, Oxford 1979.

Internet sources

- Descartes, R., *Discourse on the Method of Rightly Conducting the Reason, and Seeking Truth in the Sciences*, Project Gutenberg, <http://www.gutenberg.org/files/59/59-h/59-h.htm> (date of access: 10 August 2015).
- Gorożdza M., *Obrona antynaturalizmu. Wokół myśli F.A. Hayeka*, Copernicus Center, <https://biolawgy.files.wordpress.com/2010/11/obrona.antynaturalizmu-wokol-mysli-f-a-hayeka.pdf> (date of access: 7 March 2013).
- <http://plato.stanford.edu/entries/peirce/#prag> (date of access: 24 November 2013).
- <http://www.peirce.org/writings/p119.html> (date of access: 6 March 2013).
- <http://www.si.edu/About> (date of access: 6 March 2013).
- O'Connor J.J., Robertson E.F., *Kartezjusz*, MacTutor History of Mathematics archive, <http://www-history.mcs.st-andrews.ac.uk/Biographies/Descartes.html> (date of access: 23 December 2013).

Truth, reality and science in the views of American pragmatists with regard to Charles S. Peirce and William James

Summary

The views of American pragmatists are particularly interesting for contemporary researchers as they are reflected in contemporary scientific ideas. Peirce showed superiority of the scientific method over other methods of overcoming doubts and verifying common, but unsubstantiated views. His scientific paradigm imposes a flowchart that can still be successfully used in conducting research. Peirce was also the first to attach so much importance to the economy and efficiency of research. In the opinion of William James, truth is a kind of social consensus. Truth is not absolute and the criterion for the truth is its usefulness for man. Adopted on the basis of science belief of a non-deterministic nature of reality, combined with the view that the progressive increase in knowledge will someday lead to formulating the theory describing all of the physical phenomena, fit into the views propagated by thinkers such as Peirce and James. It is hard to downplay the contribution of pragmatists into the formulation of the assumptions of modern scientific paradigm as well.