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**THE NATURE OF THE SUBJECT OF RESEARCH
IN NATURAL SCIENCE AND IN HUMANISTIC
SCIENCE (DO METAPHORS AND SYMBOLS “REFER”
TO THE SPECIAL ASPECT OF REALITY,
ATTRIBUTABLE TO HUMANISTIC SCIENCES ONLY?)**

“The linguistic game changes somewhat in the course”

L. Wittgenstein

In the disputes concerning the nature of the subject of research in natural science and humanistic science there are different approaches: the approach in which the predominant position is given to natural science and its methods – represented mainly by natural scientists and in science philosophy called naturalism and the approach attaching greater importance to humanistic science, which aim at proving the uniqueness of the nature of the methods worked out by the “science of spirit” usually apparent in humanists’ statements and in science philosophy referred to as antinaturalism. Is each party supporting their argument? Can it be said that both sides “have plunged” into their

linguistic games and learning the ways of the adversaries is desirable only in order to reject them? In this article, first I would like to briefly present the attempts to approach the issue of methods in these sciences in order to prove, through presenting the nature of the aspect of reality “touched upon” by humanistic science (based on the example of the literary theory of metaphor and symbol of M. Black and P. Ricœur), that similarly to certain metaphors becoming dead and certain symbols “being freed from a magic spell”, the same happened to many metaphors of natural science, which initially referred to the equally metaphorical reality as in humanistic science.

1. “Inferiority complex” of humanistic science towards natural science

In the second half of XIX century an opposition was established to the methodological naturalism (based on the uniformity of methods in all areas of science), namely antinaturalism, in which the separate nature of the subject of research in natural science and “science of spirit” was indicated, highlighting the necessity to apply different methods in these sciences (W. Dilthey, E. Spranger, E. Cassirer, H. Rickert, M. Weber). The discussion on the value of achievements of natural science and humanistic science seems to be still ongoing; also it is often indicated that social sciences suffer from “inferiority complex”, which is apparent in the fact that “apart from justifiable and sound efforts aiming at the development of the methodology of humanistic science”¹ (clarification of notions, model analyses), there are also attempts to make humanistic science more science-like, which do not suit its nature.

A very interesting approach to the nature of the subject of research in natural science and humanistic science was presented by Andrzej Zybertowicz in his book “Violence and learning”. Zybertowicz wonders why the knowledge gained by natural science is considered to be more objective (better!) than the output provided by social science, which in this way can be presented as “a series of failures”, and the author of “Violence...” notes that similar thing happens to statements formed by religion, ethics and arts. The reason for this can be found in the fact that “social science does not apply proper research methods”² (underlined K.N.) – proper, which means those applied by natural science – which supposedly indicates the lack of methodological maturity of humanistic science; also the nature of the subject of research of humanistic science, i.e. the fact that this subject is constituted by “people with whom the researchers share community spirit”³, does not allow keeping full distance or application of (so effective in natural science) experiment methods – insufficient callousness of the researchers towards the subject of their research; furthermore – too little (compared to natural science) expenditure on the development of humanistic science negatively affects its results; moreover – the subject of the research of humanistic science is more complex,

¹ J. Sztumski, *Wstęp do metod i technik badań społecznych*, Wyd. Śląsk, Katowice 1999, s.75

² A. Zybertowicz, *Przemoc i poznanie. Studium z nie-klasycznej socjologii wiedzy*, Wyd. Uniwersytetu Mikołaja Kopernika, Toruń 1995, s.274

³ *Ibid.*, s.274

which makes it difficult to provide objective and universal knowledge – no suitable deterministic models can be applied. This view shared among society also results from a different nature of the subject of research in humanistic science – the methods used in natural science are incapable of capturing such a special and unique aspect like e.g. freedom of man; in natural science there is “one nature”, with universal properties, whereas humanistic science refers to heterogeneous subject of research and these differences are significant and cannot be ignored – this would contradict the sense of creating models of universal nature.

Zybertowicz deals with the question of why society recognises the superiority of natural science, why humanistic science is denied the status of universally true knowledge. It seems that the contemptuous attitude towards the achievements of humanistic science is very common – it is found not only in books, in discussions between the scientists of both sciences, but also in day-to-day evaluation of the output of humanistic science. Zybertowicz looks for the reasons for this social reception of the conclusions provided by humanistic science in the nature of “institutional structure, in which all areas of knowledge function”⁴ as well as in the way the conclusions reached within the framework of particular science affect society in social-cultural context. Thus the author emphasises the shortcomings of humanistic science in providing solutions to practical problems, in working out a paradigm in which it could effectively function, in a constant attempt on the part of science of culture to meet the expectations of given social groups and also in creating inconsistent models of the subject by humanistic science.

Zybertowicz while presenting the organisational forms predominant in natural and humanistic research, which (apart from the results obtained within the framework of science) contribute most to the creation of “inferiority complex” of humanistic science, refers to the conclusions reached by Fuchs, i.e. to his notions of *mutual interdependence* and *indefiniteness of tasks*. *Mutual interdependence* is “the degree to which the researchers are dependent on the mechanisms of control, promotion and distribution of funds for the research in their areas”⁵ – this leads to common ways of analysing the subject of the research and enables strong, interrelated and universalist research practices (undoubtedly, natural science is superior to humanistic science in this respect), and *indefiniteness of tasks* is the degree of the predictability of the research process, the indefiniteness being the lower, the better known the subject of research and the approach is (if we place in this context humanistic science with its different approaches to similar issues, as opposed to natural science, where even the criteria for the evaluation of obtained results are set, we will again see that the tasks in natural science are more definite) – humanistic science does not meet these requirements as well as natural science. Then there is the social context of the functioning of the output of both these sciences, however even in this respect the predictions made by natural science are more willingly accepted and recognised as better knowledge. Zybertowicz claims that natural science does not drive humanistic science into complexes because the two differ in terms of epistemology and methodology but because of the type of interaction of the conclusions provided by these sciences with the existing content of culture. Natural

⁴ *Ibid.*, s.277

⁵ *Ibid.*, s.281

science uses the existing “resources of notions” and this is why we “understand <<nature>> better than society and people”⁶. Zybertowicz indicates that before, devastated by “the complex” of humanistic science toward natural science we try to create humanistic science according to the models of natural science, we should note that “natural science examines those areas of social experience which are not provided with a moral shield by modern culture”⁷, and still, humanistic science has a special subject of research – people, and it is difficult to establish how far we should interfere in social life so as not to harm ourselves. Zybertowicz comes to the conclusion that the strength of natural science is based on the lack of moral shield for the phenomena it examines – “let us cancel out the limitations in experimenting on people and soon we will see how many new fascinating concepts there will appear in humanistic science!”⁸

Should humanistic science still have “the inferiority complex” toward natural science then, if its main fault is the fact that it has such a special and unique subject of research and is so subtle that it does not want to deprive it of its uniqueness only to achieve better research results? I think that we should seriously (also scientifically) consider whether the excessive efforts to make humanistic science resemble natural science are not too dangerous and whether the desire to achieve research successes – is worth interfering in something that is so unpredictable and delicate as social life, which after all, is the life of people.

I think that literature is a realm of man’s activity which in a very compelling way reflects the elusiveness and mystery of human life, which are these aspects of reality that humanistic science tries to approach, and this is why I will try to show the special nature of the subject of research in humanistic science based on the example of M. Black and P. Ricoeur’s literary theory of metaphor and symbol.

2. The reality of the world of metaphors and symbols

Do metaphors and symbols “say something more”? Do they deal with linguistic reality? Or maybe they refer to the special aspect of reality? Are the issues they deal with quite different from the aspect of world examined by natural science? Are metaphor and symbol distinguished in the world of the sciences of spirit, and in natural science merely catachreses, which die when they are successful? Finally, can we describe metaphor and symbol as scientifically “significant”?

Max Black in his article “Metaphor”, distinguishing three ways of interpreting metaphors (substitutive, comparative and interactive theory of metaphor), tries to “unveil (metaphor’s) the mystery” on the basis of literary criticism, where metaphor is not considered to be “inconsistent with serious thinking process”⁹. One of the questions

⁶ Ibid., s.343

⁷ Ibid., s.349

⁸ Ibid., s.350

⁹ M.Black, *Metafora* [in:] *Studia z teorii literatury. Archiwum przekładów „Pamiętnika Literackiego”*, Wrocław 1977, s.85

Black raises with respect to the issue of the nature of metaphor he deals with is “if, and in what sense metaphor is a «creative»”¹⁰ element. How is it that certain metaphors seem to be irreplaceable? Is the creativity of metaphors seen in creating something that does not exist in linguistic reality? Before I attempt to consider these questions I will describe Black’s basic conclusions concerning metaphor.

Black distinguishes focus and frame as parts of metaphor. The focus of metaphor is what provides basis for its creation, something of a dissonance in normal usage of a word. However, the frame is necessary, and it opens up the focus: “the presence of one frame enables a metaphorical usage of a word, and another frame, used with this word – prevents it”¹¹. Apart from the words which, when confronted by focus, spark off the creation of a metaphor, also the special circumstances surrounding its utterance are important. Black claims that “metaphor should be placed in «semantic» not «syntactic»”¹² context, because it is metaphor’s meaning that is of the greatest importance, and not e.g. the grammatical form.

The substitutive theory of metaphor describes metaphor as a substitute of a literary expression, namely the creative aspect of metaphor which can be approached substitutively (i.e. can be simply replaced by a normal expression), boils down to merely “deciphering the code or unravelling mystery”¹³. Metaphor provides a convenient way of filling the gaps in literary glossary (e.g. through creating synopses) and is a kind of catachresis, or “assigning new meanings to old words”¹⁴. A type of the substitutive theory of metaphor is the comparative metaphor, which shows a hidden function in metaphor – analogy and resemblance. Black notes however, something extraordinary, distinguishing such a metaphor from something which simply provides e.g. a synonym of a word (this is as far as natural science reaches) – metaphor “possesses its own value and possibility”, when it is impossible to find literal similarities between the meaning of words, and therefore “it is more sensible to say that metaphor creates similarities and not just formulates the existing ones”¹⁵ (underlined K. N.). The creative aspect of metaphor is greater here – metaphor does not unravel a mystery like a good private investigator, but it creates one itself. Moreover, Black claims that “we need metaphors when there is no room for the precision of scientific statement” – which means that if metaphors are also present in natural science, even in natural science there are phenomena which cannot be accurately described by scientific notions.

The interactive theory of metaphor is the most creative one because the interaction between two words is mutual. Black shows this on the example of the expression “Man is the wolf”, where on one hand the system of simple associations creates the vision of man as being “wolf-like”, and on the other hand – the wolf becomes more... human. In the interactive theory of metaphor Black distinguishes two subjects in the metaphorical expression: the main one and secondary one, where the two constitute *system of things*, i.e. it is not only things themselves that are important but also the contexts and relations which they enter. Metaphor is the projection of “associative implications” (very often

¹⁰ Ibid., s.86

¹¹ Ibid., s.87

¹² Ibid., s.87

¹³ Ibid., s.90

¹⁴ Ibid., s.91

¹⁵ Ibid., s.94

stereotyped and simple or set out by the creator of the metaphor) onto the main subject from the secondary subject, the projection which “selects, highlights, obscures and organises”¹⁶ the characteristics of the main subject (indirectly also of the secondary subject). Are such metaphors accurately replaceable? The shifts in the meaning of words do not have a simple and clear explanation – moreover – it is thanks to this unexplainable (scientifically) projection of “associative implications” that interactive metaphors cannot be replaced by literal examples (which is possible in the case of substitutive and comparative metaphors). This is due to the “separate intellectual operation”, which “cannot be reduced to a comparison”, and a literary paraphrase of such a metaphor incurs “losses (which) are concerned with (...) cognitive content”¹⁷. It is this fact that allows Black to claim that “there is no doubt that metaphors are dangerous – perhaps especially in philosophy. However, their prohibition would be a deliberate and harmful limitation of research capacity”¹⁸.

Paul Ricoeur in his essay “Metaphor and symbol” includes the surplus of meaning carried by metaphor in the semantics and in symbol he distinguishes semantic element and non-semantic element. Ricoeur begins his considerations with showing the nature of literary discourse, in which, contrary to the scientific discourse, two meanings co-exist – explicit and implicit. The author of the essay wonders whether it is proper that cognitive value is commonly attributed to denotation (explicit meaning), denying connotation (implicit meaning) any cognitive features. Through showing that the relation between these meanings is internal, Ricoeur wants to place the implicit aspect of literature in semantics so that “literature is (...) such a type of discourse, which says a few things at the same time” and “which makes a positive and effective use of ambiguity”¹⁹. Ricoeur, like in Black’s interactive theory of metaphor, definitely rejects the concept of metaphor as “a case of providing a name”, which does not provide any surplus of meaning. Metaphorical expression is created as a result of the tension between the denotations of words creating the metaphor and it is this tension or even the absurdity between the interpretations, or Black’s “associative implications”, that creates the metaphor: “metaphor does not exist on its own but through an interpretation”, which transform (distort) the meaning of words occurring in metaphorical expression and find “relationships where the common perception does not see any relationship”²⁰. Metaphor, then, does not lend itself to be translated and is not an embellishment of discourse, therefore it provides not only emotive value but also, or perhaps above all, “it tells us something new about reality”²¹, it is a semantic innovation and as such it possesses cognitive feature!

In the research on the nature of symbol Ricoeur indicates two difficulties: firstly – research on symbol is divided into many different areas (psychoanalysis, poetics, history of religion), which makes the problem of symbols “seem to be overwhelmed by their sheer number”; secondly – the dual structure of symbol, combining in itself two

¹⁶ Ibid., s.99

¹⁷ Ibid., s.99

¹⁸ Ibid., s.100

¹⁹ P.Ricoeur, *Metafora i symbol* [in:] „*Literatura na świecie*” 1988, zeszyt 8/9, s.235

²⁰ Ibid., s.238

²¹ Ibid., s.240

orders of discourse – linguistic and non-linguistic (in every area where symbol is examined, its linguistic components are related to something different).

In order to avoid the above difficulties Ricoeur, moves the considerations on the structure and nature of symbol into the realm of metaphor, which is supposed to enable recognition of symbol's "semantic core", and also isolate its non-linguistic area. The author of the essay distinguishes in symbol, just like in metaphor, certain surplus of meaning, which is created thanks to the conflict between two interpretations, where symbol does not have two separate meanings (literal and symbolic) – "there is one move rather" which draws the symbolic meaning closer through the literal meaning. Only thanks to this drawing of the first meaning closer to the second meaning, thanks to the move whose direction is set by the symbolic meaning, it is possible to indirectly reach the notion: "we deal with symbolic knowledge when direct capture of the notion is not possible and when the direction to the notion is directly indicated by the second sense of the first meaning". Like in metaphor, the coexistence of similarity and difference shows "the conflict between the earlier categorisation of reality and the new one, which is being born"²² – thus the tension between the two meanings creates (more precisely – draws closer), new, special, attributable to a symbol aspect of reality. Through symbol it is possible to reach another existence – existence in the dimension, which cannot be reached otherwise. In this way, a humanist can reach into the categorisation of reality which is unknown and inaccessible to scientists, who do not value the humanistic interpretation of symbol. According to Ricoeur, metaphor is comprised "in an already crystallised universum of logos and symbol fluctuates on the line dividing bios and logos"²³, which means that symbol provides language with new ways of being in the world not in inquiring but on the border between life and logos; symbol existing in fixed systems of life is "linked to cosmos" and "will never disappear"²⁴. Ricoeur determines the connection between metaphor and symbol – metaphor, by introducing into language meanings comprised implicitly only in symbol provides more, symbol with its dual structure, is superior to metaphor, which is "merely the linguistic surface of symbols"²⁵. Thus symbol reaches to the aspect of reality inaccessible in normal discourse – the aspect of life reality, reality of sacrum, which is so extraordinary that non-symbolic (including scientific ones) approaches are not even capable of touching it...

I think that it is curious that there should be metaphors in natural science – is such an effective and precise scientific language of this area of knowledge incapable of reaching certain aspects of the reality examined by natural science? Of course, it can be said that the metaphors occurring in natural science are mostly dead metaphors – and cannot be denied – however, when they were created they were alive and there must have been some scientifically significant (since everything in natural science must be scientifically

²² Ibid., s.242

²³ Ibid., s.245

²⁴ Ibid., s.249

²⁵ Ibid., s.254

significant) reason for their creation. It must be noted that some of these metaphors are often poetically very... well-constructed (at least in my opinion), e.g. *latent heat of fusion* which indicates the amount of heat needed to change ice into water, *discrete variables*, which means variables which can assume only certain values, or finally *osculating curves*. Therefore there must have been, at least initially, some demand for metaphor, which was to fill in the gap in language – also in the language of science.

Humanistic science is accused of lack of precision, providing data that is not very objective and poor methodology – but isn't it just a little curious that even in such a perfect science as natural science there are gaps which require metaphorical filling? In the modern theories of natural science (e.g. in quantum physics) scientists often apply metaphors to describe the examined phenomena, and what is more – a theory is sometimes acknowledged mainly not because it meets the scientific criteria (great explanatory or provident power) but for... aesthetic reasons (theory of strings).

Humanistic science and natural science are different – but some of the methods used in one of them can be to some extent useful in the other, so perhaps we should stop pondering over the superiority of the methods of one of them and try to apply (where possible) in humanistic science what has been created by natural science, and by the same token, let natural science apply the achievements of humanistic science.

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