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## The Methodology of the Humanities and Karl R. Popper's Philosophy of Science and Art\*

### Abstract

The aim of this paper is to test the possibility of adopting Karl R. Popper's model of science in the humanities - its *raison d'être* is the current situation of the humanities. Difficult on account of their complex and elusive subject, this situation has recently become aggravated as a result of the poststructuralist rejection of the classical concept of scholarship in favour of either cognitive relativism or approaches openly admitting to an ideological bias. Popper's model of science might help protect the standards of research in the humanities, as it entails *inter alia* falsifiability as the criterion of demarcation for science, the correspondence theory of truth and, above all, the method of critical rationalism. An attempt to apply Popper's ideas to the humanities is further legitimized by his recognition that, although the object of their investigation is world 3, their method is the same as that of the natural sciences: identification of problems, tentative solutions and their critical examination. The most problematic issues in the project concern falsification, formulation of universal laws and predictions. Some of the difficulties (esp. with reference to falsification) might be overcome with the help of Popper's cognitive theory of art. Popper argued, namely, that art's primary function is cognitive (descriptive and problem-solving), that its nature is semiotic, that its origin is mythic and that the process of its creation involves an interaction between the mind of the artist and the object of world 3 the mind is engaged in creating.

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\* The original version published in *Studia Philosophica Wratislaviensia*, 4 [3] (2009), pp. 27–52

If my purpose were only to live pleasurably, why not use texts as though they were mescaline and why not decide that Beauty is Fun, Fun Beauty, that is all Ye know on Earth, and all ye need to know?

Umberto Eco, *Interpretation and Overinterpretation*

I believe that the critical theory of knowledge [...] throws some light upon the great problems of all theories of knowledge: how it is that we know so much and so little; and how it is that we can lift ourselves slowly out of the swamp of ignorance – by our own bootstraps, as it were. We do so by working with guesses, and by improving upon our guesses, through criticism.

Karl R. Popper, *The Open Society and Its Enemies*

One must not suppose that the specificity of cognition available in the humanities might be so great as to either violate the rationality constraint on knowledge or limit the humanities to mere description.

Stanisław Kamiński, *Science and method*

### **Introduction: methodological problems of contemporary humanities**

The present considerations take as their starting point the methodological problems of contemporary humanities. On one hand, the humanities today face, as always, the same difficulty of dealing with the complex matter of culture. On the other, they are challenged by the current revival of sceptical thought in philosophy,<sup>1</sup> the recent abortive efforts to organize the humanities along the model of the exact sciences and, according to some authors, the growing need to recognize the value of non-rational cognition in a world of advanced technology. All these phenomena have led to a breakdown of the trust once placed in science, conceived as rational cognition of objective truth about reality. As a result, a great deal of research conducted within the humanities (among others in literary studies) has been dominated by ideologies (for example, feminist or post-colonial) or else has advocated the relativity of all beliefs, contesting the need to apply any research methods and rejecting the principles of two-valued logic. It seems, however, that even though scientific cognition does not rest upon any ultimate foundation (there being no access to things in themselves or in absolute rules of reasoning), rational cognitive activity is highly valuable and, judging by the example of the exact sciences, may be effective in solving the real problems people face in their lives. The aim of this paper is to examine whether Karl R. Popper's theory of science, together with his theory of art, might be applied to the humanities, and whether this might give the humanities a sound methodological foundation and help demarcate for them the limits of scientificity. Defining such limits does not exclude the possibility of transgressing them – it does not deny the value of exploration conducted beyond them; all it does is signal that such exploration has a different, non-scientific character.

<sup>1</sup> One could mention here Nietzsche, Heidegger, Kierkegaard, Freud, Wittgenstein and linguistic philosophy, Hegel, Heidegger and hermeneutics, Marxism, Feyerabend and Kuhn and recently Derrida, Rorty, Lyotard and Baudrillard.

### 1. Popper's views on the humanities

Defining the essence of science and defending its value, Popper does not differentiate between the exact sciences, which examine world 1 – the humanities, concerned with world 3, and the social sciences, whose proper object is world 2.<sup>2</sup> To be precise, he does differentiate between them, but only in so far as their proper object of enquiry is concerned, and not with reference to their method, value or essence. Popper then offers a homogenous vision of science. This vision, however, is not a new version of physicalism (universal science based on the language of mathematics as well as observation and experiments, conducted with a view to collecting data for inductive generalizations). In Popper's view, science consists of a critical approach to cognition and its results.

Although Popper did not develop his theory of science with reference to the humanities, confining himself by and large to the natural and social sciences, he made some remarks on the subject, which, by way of introduction, I will try to present here, before discussing the possibility of applying Popper's theory of science in the humanities.<sup>3</sup>

#### THE METHODOLOGY OF THE HUMANITIES

Popper protests against any attempts to antagonize the humanities and the natural sciences: "Labouring the difference between science and the humanities has long been a fashion, and has become a bore. The method of problem solving, the method of conjecture and refutation, is practised by both. It is practised in reconstructing a damaged text as well as in constructing a theory of radioactivity".<sup>4</sup> What matters, therefore, is the common method of trial, error and error elimina-

<sup>2</sup> Popper does not formulate this idea *expressis verbis*, but it can be inferred from his theory of the three worlds on one hand and his analysis of the humanities, social sciences and natural sciences on the other. Although in the Preface to the first English edition, 1959, of *The Logic of Scientific Discovery* Popper states that "[a]ll science is cosmology", he does not repeat this idea in his later works, K.R. Popper, *The Logic of Scientific Discovery* (London 1992), p. 15.

<sup>3</sup> A few comments on the subject may be found in the following books by K.R. Popper, *Conjectures and Refutations: The Growth of Scientific Knowledge* (London 1969), p. 27 (on the specific quality of historical research which focuses on "the sources of information" rather than "the facts themselves"); *The Myth of the Framework: In Defence of Science and Rationality* (London 1997), pp. 137–153 (on the common methodology of history and the natural sciences), as well as in *Objective Knowledge: An Evolutionary Approach* (Oxford 1979), pp. 146–150, 162–168, 180–190 (on the subject of the humanities in the context of the Popperian interpretation of the relationship between man and products of the human mind as well as on the problem of understanding and interpretation in the humanities). Among the disciplines traditionally classified among the humanities, Popper devoted the most attention to history, which, however, he regarded as a social science (*Objective Knowledge...*, p. 290).

<sup>4</sup> K.R. Popper, *Objective Knowledge...*, p. 185. The methodologies of the natural sciences and the humanities are also similar as, in both, for any observation a problem is the point of reference, and any observation needs to be interpreted, "A historical document, like a scientific observation, is a document only relative to a historical problem. And like an observation, it has to be interpreted" (*ibidem*, p. 145). Popper states also that "[i]n both [history and the natural sciences] we start from myths – from traditional prejudices, beset with error – and from these we proceed by criticism: by the critical examination of errors. In both the role of evidence is, in the main, to correct our mistakes, our prejudices, our tentative theories – that is, to play a part in the critical discussion, in the elimination of error" (K.R. Popper, *The Myth of the Framework...*, p. 140, also pp. 138–153).

tion. At the same time Popper admits that hypotheses in the humanities tend to be less strict than those in natural sciences.<sup>5</sup> He admits also that the possibility of observation, conducting experiments and taking measurements, helps eliminate some theories in natural science more quickly, facilitating their critical assessment. Yet these features are not constitutive of scientific cognition.<sup>6</sup>

#### THE OBJECT OF ENQUIRY

The basic task of the humanities is to examine world 3 (products of the human mind) in the context of world 3 (other objects belonging to world 3), rather than in the context of world 2 (the human mind): “it is the understanding of objects belonging to world 3 which constitutes the chief task of the humanities. This, it appears, is a radical departure from the fundamental dogma accepted by almost all students of the humanities [...]. I mean the dogma that the objects of our understanding belong to world 2 as the products of human actions and that, consequently, they are mainly to be understood and explained in psychological (including social psychological) terms”.<sup>7</sup>

#### THE ACT OF COMPREHENSION

“The activity of understanding” (in the humanities) does not really differ, for Popper, from “that of all problem solving”.<sup>8</sup> Understanding is not limited to the area of the humanities, whatever Wilhelm Dilthey or Robin Collingwood might think.<sup>9</sup> On the contrary, it may well be found, more or less in the same form, in natural science:

“1. As we understand other people owing to our shared humanity, we may understand nature because we are part of it.

<sup>5</sup> Popper believes that cases of rigorous standards of conjecture testing (a case in point might be a historical reconstruction of a document) are rare in the humanities. On the other hand, sometimes in natural science such strict standards cannot be maintained either, as in the case of some cosmological hypotheses, which are not sufficiently precise to allow refutation (K.R. Popper, *Objective Knowledge*, pp. 185–186, note 36). It is worth noting in this context that for Popper, precision should be appropriate to the subject of investigation, greater precision need not always mean a better theory.

<sup>6</sup> According to Popper, a theory may also be eliminated on the basis of its inner incoherence or lack of compatibility between this theory and some other theories (K.R. Popper, *The Myth Of the Framework...*, p. 162). From the above line of reasoning it may seem to follow that observation is impossible in the social sciences (for it is the social and natural sciences that Popper compares in the passage in question), but this might well be an omission on his part.

<sup>7</sup> K.R. Popper, *In Search of a Better World. Lectures and Essays from Thirty Years*, transl. L.J. Bennett (London 1992), p. 165. Objects of world 3, according to Popper, if they are once called into being, exert considerable and not wholly predictable influence both on the world of the human mind and through its mediation on the material world, which is why they deserve this kind of autonomous treatment: “All our actions in world 1 are influenced by our world 2 grasp of world 3. This is why it is impossible to understand the human mind and the human self without understanding world 3. And it is also why it is impossible to interpret either world 3 as a mere expression of world 2, or world 2 as the mere reflection of world 3” (K.R. Popper, *Knowledge and the Body-Mind Problem. In Defence of Interaction* (London 1994), p. 142).

<sup>8</sup> K.R. Popper, *Objective Knowledge...*, p. 166.

<sup>9</sup> *Ibidem*, p. 183.

2. As we understand men in virtue of some rationality of their thoughts and actions, so we may understand the laws of nature because of some kind of rationality or understandable necessity inherent in them. [...]
3. [...] another sense [of understanding] shared [by the natural sciences] with the humanities – [consists in] the attempt to understand the world of nature in the way we understand a work of art: as a creation.
4. [...] there is in the natural sciences that consciousness of an ultimate failure of all our attempts to understand which has been much discussed by students of the humanities and which has been attributed to the ‘otherness’ of other people, the impossibility of any real self-understanding, and the inevitability of over-simplification which is inherent in any attempt to understand anything unique and real”.<sup>10</sup>

Paraphrasing Popper, one might say that there are far-reaching analogies in the human endeavour to understand culture and nature – we understand in either case that of which we are a part, that which is rational and which appears to us as created, but the quality of our comprehension is never satisfactory.

## 2. Application of Popper’s theory of science in the humanities

Popper did not provide a systematic treatment of the methodology of the humanities. The discussion that follows is an attempt to do so. First, to make Popper’s theory of science easier to operate, I summarize its most important theses.<sup>11</sup>

1. The aim of science is truth (science aims to describe and explain reality).<sup>12</sup>
2. Falsifiability is the criterion of scientificity: a thesis (theory) is scientific if it (or predictions based on it) may be confronted with empirical data. A thesis (theory) which is not contradictory with any conceivable state of affairs is either non-scientific or worthless because of its generality.
3. The method of science consists in critical rationalism.<sup>13</sup> Any scientific investigation starts with a problem. The problem is solved by putting forward bold hypotheses<sup>14</sup> and, subsequently, by their critical examination. In terms of their

<sup>10</sup> *Ibidem*, p. 184.

<sup>11</sup> The presentation is based on *The Logic of Scientific Discovery, Conjectures and Refutations...*, *Objective Knowledge...*, *The Myth of the Framework...*, *In Search of a Better World...*. It is meant to be synthetic and thus does not take into account the evolution of Popper’s ideas. For the purpose of this essay, this inaccuracy seems negligible.

<sup>12</sup> Popper accepts the correspondence theory of truth, which involves the correspondence between a theory and facts, in the version offered by Tarski.

<sup>13</sup> It is worth noting here that for Popper, rationality consists of “a critical attitude towards problems – the readiness to learn from our mistakes, and the attitude of consciously searching for our mistakes and for our prejudices”, (K.R. Popper, *Knowledge and the Body-Mind Problem...*, p. 134; cf. also *Preface to The Logic of Scientific Discovery...*, p. 16).

<sup>14</sup> What is precious in theories is high testability, efficiency in problem solving and the ability to pass severe tests. Popper notes also that a theory that is rich in empirical content may be useful even after it has been refuted, as it often gives rise to new problems (K.R. Popper, *Objective Knowledge...*, p. 144). Cautious and general hypotheses, on the other hand, though they may be hard to falsify, make little contribution to science.

content, the hypotheses are universal laws aiming to describe the structure of the world. Regarding the stage at which hypotheses are formulated, there are no methodological procedures of absolute validity; apart from reason and experience, also irrational sources of cognition (such as intuition or imagination) are permissible. At the stage of falsification, the basic operation is deduction: deriving from theories (general statements) conclusions (in the form of singular statements), by means of which the theory may be subject to criticism (the falsehood of a singular statement, compatible with the theory, discloses, by way of inference, the falsehood of the theory).<sup>15</sup> Popper rejects all authorities; the authority of reason, experience and also language.<sup>16</sup>

4. Knowledge in science is hypothetical. Not only tentative formulations of scientific laws, but also observational statements and the assessment of theories or, to be precise, reports from critical discussions about them, always enjoy the status of hypothesis.<sup>17</sup> A foolproof scientific method that would yield certain knowledge is unavailable. There is no criterion of truth that would help identify true theories.

5. In spite of the fact that we remain confined to the sphere of hypothetical interpretations and we have no access to pure empirical data or conclusively verified, hence definitely true, theses, science makes progress. This is possible thanks to the criteria which define the relative value of a hypothesis: simplicity,<sup>18</sup> prognostic value,<sup>19</sup> and the ability to survive severe tests. Owing to such criteria,

<sup>15</sup> Testing makes use of some basic rules: respect for empirical data, recognition of the rules of the two-valued logic (including the law of excluded middle), and strong arguments built along the rules of logic on the basis of empirical data. Popper justifies the choice of the classical logic indicating its strength in comparison with alternative systems of logic. If tests are to be severe, one should not choose a logic which may tolerate contradictions. In mathematics, theorems may be proved with the use of a weaker logic, but in empirical science, where logic is used to refute false hypotheses, the two-valued logic should be applied (*ibidem*, pp. 304–308).

<sup>16</sup> Objectivity of science consists in rational criticism (which is universal in its scope) and the objectivity of the logical rule of contradiction which science adopts, not in “an impartial state of mind in the scientists” (K.R. Popper, *The Myth of the Framework...*, pp. 69–70; *In Search of a Better World...*, p. 67). Some more specific methodological rules also regulate scientific investigation, for example the rule forbidding introducing *ad hoc* hypotheses in the process of falsification if their purpose were merely to defend the theory that might otherwise be refuted. On the contrary, auxiliary hypotheses may be introduced to the tested theory only if they increase its falsifiability (K.R. Popper, *The Logic of Scientific Discovery...*, pp. 82–83).

<sup>17</sup> There are two exceptions, i.e. two kinds of statements whose truth is indisputable: tautological statements and some mathematical propositions.

<sup>18</sup> This simplicity is, according to Popper, “intimately connected with the idea that our theories should describe the structural properties of the world...” (K.R. Popper, *Conjectures and Refutations...*, p. 241). Popper also writes that “our theories make assertions about structural or relational properties of the world; and [...] the properties described by an explanatory theory must be, in some sense or other, deeper than those to be explained”, (K.R. Popper, *Objective Knowledge...*, p. 197). Although the concept of depth cannot be subject to logical analysis, it may serve as an intuitive guideline. This is how Popper defines his attitude to essentialism in science, calling his own approach a “‘modified essentialism’ – with emphasis upon the word ‘modified’”, (*ibidem*, p. 195), since he rejects both ultimate explanations and enquiries into the essence of things (*ibidem*, pp. 191–205, esp. pp. 194–196).

<sup>19</sup> The new theory “must have new and testable consequences (preferably consequences of a new kind); it must lead to the prediction of phenomena which have not so far been observed”, (K.R. Popper, *Conjectures and Refutations...*, p. 241). It is worth noting, however, that Popper understands predictions as part of the procedure of falsification (if the theory gives rise to new

competitive theories may be compared, and worse theories may be replaced with better ones.

6. Reality is the object of scientific enquiry. It is inadvisable to attach too much importance on linguistic analysis.<sup>20</sup> Scientific language should be simple.

Putting aside the question whether this model of science (or its elements) has ever been employed by humanists, I would like to consider the difficulties which, theoretically, such a project might involve. The most problematic seem to be the procedure of falsification, formulation of universal laws, and predictions. This is so because of the specific object which the humanities investigate, which is immaterial, unique and sometimes apparently marked by contradictions.

Approaching the question of falsification, one should bear in mind that even in the exact sciences this procedure is fraught with difficulties and many objections have been raised, in particular with reference to the possibility of isolating the thesis to be tested and confronting a theory with facts, which themselves are theory-laden.<sup>21</sup>

To the objection that it may be difficult to isolate the faulty element out of a theory, Popper responds that testing a theory means comparing it with other theories and choosing the better theory – the one that better corresponds with the facts, not the true one: “Against the view here developed one might be tempted to object (following Duhem) that in every test it is not only the theory under investigation which is involved, but also the whole system of our theories and assumptions – in fact, more or less the whole of our knowledge – so that we can never be certain which of all these assumptions is refuted. But this criticism overlooks the fact that if we take each of the two theories (between which the crucial experiment is to decide) *together* with all this background knowledge, as indeed we must, then we decide between two systems which differ *only* over the two theories which are at stake”.<sup>22</sup>

Popper is also aware of the fact that any observation statement is implicated in a theory: “The ‘empirical basis’ consists largely of a mixture of *theories* of lower degree of universality (of ‘reproducible effects’). But the fact remains that, relative to whatever basis the investigator may accept (at his peril), he can test his theory only by trying to refute it”.<sup>23</sup> The so-called facts are not pure empirical data but interpretations thereof. Basic statements are to some extent dogmas — it is the scientist who decides whether he/she will temporarily accept or reject them; at the same time all such statements are open to the procedure of falsification and must always meet the condition of observability (i.e. basic statements “must be testable, inter-subjectively, by ‘observation’”<sup>24</sup>).

predictions, this means it may be tested independently); elsewhere he refers to the same postulate as if it were simply an element of crucial tests to which a theory should be exposed (p. 247).

<sup>20</sup> It is likewise inadvisable to attach too much importance to definitions (which do not extend knowledge) and to maximal precision (the optimal precision is relative to a given issue).

<sup>21</sup> For a detailed presentation of these and other objections to Popper’s thought, see A. Chmielewski, *Filozofia Poppera: analiza krytyczna* (Wrocław 1995).

<sup>22</sup> K.R. Popper, *Conjectures and Refutations...*, p. 112.

<sup>23</sup> *Ibidem*, pp. 41–42, note 8.

<sup>24</sup> K.R. Popper, *The Logic of Scientific Discovery...*, p. 102 (cf. pp. 100–111 about basic statements).

Popper admits that there is no certain base upon which the procedure of falsification could rest.<sup>25</sup> Any criticism, as he explains in *The Open Society...*, is implicated in various assumptions. None of these have been verified but all may be subjected to the test of falsification. Finally, Popper points out that the main purpose of criticism is to demonstrate that if a theory fails to solve the problem whose solution was its aim, which is often feasible within the assumptions of a given theory,<sup>26</sup> a theory may be falsified by being confronted with predictions which can be derived from the theory in question, or else when it is shown to fail to explain certain phenomena which remain within its scope. In other words, a theory may be refuted on the basis of immanent criticism.

Even if falsification is problematic, Popper argues that it is the best option available; with greater or lesser success scientists have been taking advantage of this procedure (the progress of science shows that their decision has been right), as illustrated by convincing examples of effective falsification (the one quoted most frequently is the refutation of Newton's theory). The above discussion of the issue has been extensive because falsification, regardless of the nature of the object under investigation, is not a methodological procedure easy to operate/prove, which Popper admitted. It is however, unlike induction, a procedure that in logical terms is both legitimate and conclusive.

Falsification is not only a scientific method but also a demarcation criterion that lets us distinguish between scientific (empirical) and non-scientific (non-empirical) statements. The humanities have for their object of investigation the world 3 (i.e. the world of objects called into being by the human mind), which seem to be part of empirical reality.<sup>27</sup> This world however, according to Popper, is immaterial,<sup>28</sup> it consists of ideas. The proper work of art, *Hamlet* for example, exists in world 3; it is neither a copy of the book nor a theatrical performance (both of which are material objects belonging to world 1), nor the content of its author's mind (psychic experience belonging to world 2), but an idea.<sup>29</sup> But 'immaterial' does not mean here less real or subjective. Popper's theory of the three worlds gives objects of world 3 a fully objective and autonomous existence in world 3, as well as a secondary existence in material form in world 1 and in psychic form in the mind of the artist and the recipient of art in world 2.<sup>30</sup> We come to know ideas because world 3 and world 1 exert influence on each other through the mediation of world 2. Yet the primary object of the Popperian humanities is neither the material

<sup>25</sup> *Ibidem*, pp. 108–111 ; *Objective Knowledge...*, pp. 33–35.

<sup>26</sup> K.R. Popper, *Facts, Standards, and Truth. A Further Criticism of Relativism*, [in:] K.R. Popper, *The Open Society and Its Enemies* (London 1963), pp. 369–396.

<sup>27</sup> In the case of philology, the object of investigation is language and literature, in the case of the history of art this is the works of art, in the case of the history of ideas this is the history of human thought. The humanistic disciplines are now much more numerous (including also anthropology, cultural studies, gender studies and the like); for the sake of simplicity I choose here the classical ones.

<sup>28</sup> I am not sure whether this is also true about the subject of history, which Popper anyway places among the social sciences.

<sup>29</sup> K.R. Popper, *Knowledge and the Body-Mind Problem...*, pp. 21–22

<sup>30</sup> It seems that Popper allows for the situation in which some objects of world 3 might come into being entirely within world 2, without any interaction with world 3 (*ibidem*). For them, the psychic form of existence might be primary.



dimension of a work of art nor the subjective experience the work inspires, but ideas, which exist autonomously.

For the sake of the present discussion of falsification, let us assume that the statements made in the humanities concern analysis (description), interpretation and evaluation. With reference to analysis and observational statements, the procedure of falsification does not give rise to any special problems: if, for example, someone claims that in Conrad's novel *The Nigger of the "Narcissus"* the author employs exclusively the third-person singular narration, it suffices to take the book in one's hands to refute the statement by indicating a passage with the first-person plural narration. A sentence of that kind in terms of Popper's theory would be an observational (empirical) statement, whereas falsification should be applied first of all to bold hypothetical statements of universal laws,<sup>31</sup> which is the second problematic issue as the hypotheses put forward in the humanities, even when bold, rarely take the form of statements that are unconditionally, universally valid. Patricia Waugh, for instance, in her book on metafiction in English literature presents the hypothesis that metafiction as a narrative strategy was very much foregrounded in English fiction written between 1964 and 1984 (and, moreover, to some extent is typical of the whole genre of the novel)<sup>32</sup>. In other words, Waugh does not claim that in every English novel published between 1964 and 1984 metafiction will feature prominently – she suggests that this will be the case in most of them.

While formulating laws in the humanities, one should take into account the unique character of objects of world 3. Especially with reference to works of art, some regularities (rather than laws) may be identified only when examining a larger set of objects. This is quite different from the investigation of inanimate matter (where two atoms of hydrogen are practically identical), different also from the investigation of animate nature (where each slowworm from the species *Anguis fragilis* will basically repeat the same matrix coded in genes, in statistical terms only slightly modified by personal experience, mutation and recombination; which does not mean, however, that the lizard's behaviour will be determined in the same degree as its morphology). A different level of precision is proper for the laws that concern inanimate nature (*cf.* the atom of hydrogen), living beings (*cf.* the slowworm), man-made objects (*cf.* *Hamlet*) and man him/herself. Apparently one should accept the fact that culture is more original than nature, and that the demand that universal laws should be formulated in the humanities along the model of some of the natural sciences,<sup>33</sup> is unreasonable.<sup>34</sup> Incidentally, the alleged

<sup>31</sup> The falsification of such a general thesis (theory) may of course involve testing singular statements that logically follow from the general theory.

<sup>32</sup> P. Waugh, *Metafiction. The Theory and Practice of Self-Conscious Fiction* (London 1985), p. 5. Waugh defines metafiction as fiction which deliberately and systematically undermines the illusion that the world presented is the real world, if the purpose of this strategy is to problematize the relation between reality and fiction (*ibidem*, p. 2).

<sup>33</sup> The laws concern structural properties of the world, hence it is worth noting that, for example, in linguistics, literary studies or anthropology in the 20<sup>th</sup> century, one could witness the development of structuralism, i.e. searching for certain recurring, although not necessarily universal, patterns of relations.

<sup>34</sup> There may be some exceptions, but these will be very general statements, e.g. in any natural language there are some syntactic rules.

universality of natural laws, in Popper's opinion, might actually be limited to our part of the universe,<sup>35</sup> so that the asymmetry might not be quite as striking after all.

More importantly, the absence of universal laws does not necessarily prevent the application of falsification. If a hypothesis speaks of a certain regularity (tendency) which is not about a universal rule, this hypothesis may be falsified by examining the proportion of the elements which comply with the hypothesis in the total set. A single case that contradicts the hypothesis does not suffice in such a case to refute the hypothesis; auxiliary methodological rules are necessary to establish the limits of tolerance for exceptions. There is also the problem of the representativeness of the objects selected for investigation. Clearly, these should be sufficiently numerous and selected at random – here again specific rules are needed to preclude the possibility of data manipulation. Under some conditions, although not as spectacularly conclusive as in the case of the exact sciences, the procedure of falsification seems nonetheless available to the humanities.<sup>36</sup>

Most problematic however, is not description, but interpretation, i.e. the understanding of world 3. Are interpretations falsifiable? Discussing the hypothetical case of Jack the Ripper, who is supposed to have found inspiration for his crimes in the Gospel according to Saint Luke, Umberto Eco demonstrates that some readings are patently unacceptable, thus falsifying the hypothesis about the total freedom of interpretations.<sup>37</sup> Eco offers also an example illustrating the application

<sup>35</sup> E.g. K.R. Popper, *Objective Knowledge...*, p. 204; *The Logic of Scientific Discovery...*, pp. 429–430.

<sup>36</sup> Also in the natural sciences (physics included) there are some areas where the only possible description of phenomena is by estimates of probabilities. To falsify a probabilistic description or to transform a metaphysical statement into an empirical one, auxiliary rules are needed (K.R. Popper, *The Logic of Scientific Discovery...*, pp. 261–262, 189–205). As Popper observes, logical falsification can be applied to universal statements, not to statements which speak of probabilities (“because they can never be logically contradicted by any basic statements”; *ibidem*, p. 261).

<sup>37</sup> U. Eco, *Interpretation and Overinterpretation. World, History, Texts* (Cambridge 1992), pp. 24–25: “Some contemporary theories of criticism assert that the only reliable reading of a text is a misreading, that the only existence of a text is given by the chain of responses it elicits, and that, as maliciously suggested by Tzvetan Todorov [...], a text is only a picnic where the author brings the words and the reader brings the sense. Even if that were true, the words brought by the author are a rather embarrassing bunch of material evidences that the reader cannot pass over in silence, or in noise. [...] To interpret a text means to explain why these words can do various things (and not others) through the way they are interpreted. But if Jack the Ripper told us that he did what he did on the grounds of his interpretation of the Gospel according to Saint Luke, I suspect that many reader-oriented critics would be inclined to think that he read Saint Luke in a pretty preposterous way. Non-reader-oriented critics would say that Jack the Ripper was deadly mad – and I confess that [...] much to my regret I would agree that Jack the Ripper needed medical care. I understand that my example is rather farfetched and that even the most radical deconstructionist would agree (I hope, but who knows?) with me. Nevertheless I think that even such a paradoxical argument must be taken seriously. It proves that there is at least one case in which it is possible to say that a given interpretation is a bad one. In terms of Karl Popper's theory of scientific research, this is enough to disprove the hypothesis that interpretation has no public criteria (at least statistically speaking)”. Eco argues further that “we can accept a sort of Popper-like principle according to which if there are no rules that help to ascertain which interpretations are the ‘best’ ones, there is at least a rule for ascertaining which ones are ‘bad’” (*ibidem*, p. 52).

of falsification with reference to a particular interpretation: an alchemical interpretation of *Little Red Riding Hood*. Here, characters are supposed to represent various chemical substances (Little Red Riding Hood, for example, is cinnabar, a mercury sulphide, red in colour), whereas the inside of the Wolf stands for the alchemical oven. Devoured by the Wolf (calomel, i.e. mercurous chloride), Little Red Riding Hood, in the process of a chemical reaction, becomes pure mercury. This results in a clash at the end of the fairy-tale, when the girl is still wearing her red hood (which should have become silver).<sup>38</sup> Demonstrating this contradiction, which disqualifies the alchemical interpretation, may be taken as a successful falsification.

In the above interpretation, Eco assumes the rule of the text's coherence, which goes back to Augustine, and has been widely accepted until the middle of the 20<sup>th</sup> century. This is how Eco paraphrases it: "any interpretation given of a certain portion of a text can be accepted if it is confirmed by, and must be rejected if it is challenged by, another portion of the same text".<sup>39</sup> In the mid-1960s, deconstructionism (Jacques Derrida) introduced a competitive rule of interpretation: the deliberate search for whatever does not fit, disrupts the text, or gives rise to its internal contradictoriness.

To accept contradiction either as an element of a theory<sup>40</sup> or reality is, for Popper, a mistake. It is indeed the mistake that hinders the development of knowledge and precludes rationality.<sup>41</sup> Contradiction, whether internal to the theory or located between the theory and facts, is the "criterion of error", an important signal in the process of falsification, hence its significance.<sup>42</sup> This is so because reality, Popper argues, is not self-contradictory; at most its structures may display certain polarity, an example of which being positive and negative electricity charges. For a real contradiction we would need a body at one and the same time charged both positively and negatively: "But we need not say that such contradictory facts do not exist".<sup>43</sup> From the above example one might deduce that Popper, writing about facts and reality, has in his mind *de facto* world 1 – the world of matter. In world 3, art included,<sup>44</sup> or in world 2 for that

<sup>38</sup> U. Eco, *Six Walks in the Fictional Woods* (Cambridge 2004), pp. 91–92.

<sup>39</sup> U. Eco, *Interpretation and Overinterpretation...*, p. 65.

<sup>40</sup> Popper offers two proofs for the possibility of inferring any conclusion whatsoever from the theory which is self-contradictory (K.R. Popper, *Conjectures and Refutations...*, pp. 317–322).

<sup>41</sup> *Ibidem*, pp. 312–335. Also Ernest Gellner, remaining under Popper's influence, believes that in terms of cognition it is unification (searching for connections) that is precious; concentrating on differences is quite contrary to the essence of the scientific endeavour (E. Gellner, *Words and Things. A Critical Account of Linguistic Philosophy and Study in Ideology* (London 1959), pp. 199–200).

<sup>42</sup> K.R. Popper, *The Myth of the Framework...*, p. 143.

<sup>43</sup> K.R. Popper, *Conjectures and Refutations...*, p. 329.

<sup>44</sup> Cf. the following passage from the novel *Watt* by Beckett: "For except, one, not to need, and, two, a witness to his not needing, Knott needed nothing, as far as Watt could see" (S. Beckett, *Watt* (New York 1970), p. 202). Critics agree that Knott represents in the novel the man-made image of God. Hence Knott's lack of any needs, related to the fact that Knott is the Absolute, clashes (remains in a logical relation of contradiction) with Knott's need to be free of any needs as well as with Knott's need to have a witness of his being free of any needs. Another example might be the difference of opinion between Faustus and Mephostophilis as

matter,<sup>45</sup> it is not so easy to exclude the possibility of contradiction. One might say that on the level of scholarly reflection on art (i.e. in the humanities) contradiction should not be tolerated (since scholarly discourse is bound by the rules of the classical logic, contradiction indicates falsehood), but on the level of the object of that reflection (i.e. in art), contradiction may sometimes be present.

If this is so, then Popper's views on contradiction apply to Derrida's deconstruction in so far as deconstruction deliberately ignores the rule of contradiction in scholarly research, but not when it struggles to expose contradictions inherent in art. With reference to art and the search for contradictions present therein, one may at most charge deconstructionists with one-sidedness. As most works of art seem to remain in the state of tension between coherence and contradiction, conflict and its resolution, a comprehensive interpretation of a work of art should give justice to this dichotomy. Unfortunately, this means that it will not always be obvious which interpretation is legitimate and which is not, on account of the contradiction that a work of art may display. A glaring contradiction, not within the work of art, but within its interpretation or between the interpretation and the work of art, seems, however, to disqualify definitely the interpretative hypothesis. In other cases one could perhaps take advantage of Popper's idea of comparing competitive hypotheses: the interpretation with greater explanatory power is preferable. One might also bear in mind that in the light of Popper's theory, all knowledge has a hypothetical status. Scholars need not necessarily resolve which is the one correct interpretation, they can construct ever better interpretations or choose them from a number of various competitive (as well as complementary) ones<sup>46</sup>.

Summing up, contact between theory and reality sufficient to identify an errant theory might be accepted as a criterion of scientificity in the humanities. Yet

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regards the existence of hell in the fifth scene of Marlowe's drama ("I think hell's a fable", claims the former; "But I am an instance to prove the contrary", responds the latter; C. Marlowe, *Doctor Faustus*, [in:] F. Kermode, J. Hollander (eds.), *The Oxford Anthology of English Literature*, vol. 1 (New York 1973), pp. 848-899, esp. p. 862). The sonnet by Wyatt provides yet another illustration; this is the poem's depiction of the experience of love: "I fly above the wind, yet can I not arise", (T. Wyatt, *I Find No Peace*, [in:] F. Kermode, J. Hollander (eds.), *The Oxford Anthology of English Literature*, vol. 1, p. 617). These are of course relatively trivial examples of contradictions, whose aim is only to explain the challenge that humanistic interpretation needs to face.

<sup>45</sup> Contradiction in art might actually be seen as a derivative of contradictions that can be found in the human psyche, especially on the assumption that art is occupied with the exploration of the world of psyche (*cf.* the discussion of Popper's theory of art, below).

<sup>46</sup> It is at this point that the question of the criteria by means of which interpretations should be evaluated becomes relevant. The criteria which let us assess the value of hypotheses offered by Popper (simplicity, prognostic potential, ability to withstand severe tests, or, partly related to them, the explanatory power of hypotheses, i.e. the depth and scope of explanation, as well as their efficiency in problem solving) seem to need certain adjustment. The possibility of formulating predictions, for example, seems questionable in the humanities. To assess the efficiency of an interpretation, one should previously define the problem in the humanities, which in turn may depend on the definition of the problem in art. Both issues will be touched upon in the forthcoming sections of the paper devoted to the Popperian theory of art. Right now, I merely wanted to note that the acceptance of the Popperian model of science in the humanities would need to be complemented by specific rules regulating the evaluation of interpretations.

the application of falsification will be limited by the originality of works of art and their inner contradictions. For the time being I leave aside the question of the falsification of evaluative statements; I will resume it with reference to the humanistic disciplines investigating art, when discussing Popper's theory of art.

There still remains the issue of predictions. Popper believes that progress in science hangs upon the possibility of making predictions (it is, to be precise, one of the three conditions of scientific progress). However, he practically excludes this possibility in the social sciences, without questioning their scientific status. In Popper's opinion, predictions as exact as those made in the natural sciences are not available in the social sciences for two reasons. First of all, in the natural sciences, predictions are conditional (i.e. the scientist predicts what will happen under certain conditions<sup>47</sup>); only on the basis of conditional predictions is it sometimes possible to put forward an unconditional prediction. In the social sciences, however, such conditions are beyond our control. Secondly, predictions are possible in systems which are recurrent, isolated and stationary. Society is not such a system.<sup>48</sup> The humanities are concerned with a similar, open, system, where the scholar has no control over the factors which determine the situation, but also here the inability to make predictions needs not imply a lack of scientificity.

Furthermore, even in some areas of the natural sciences, it is not always possible to formulate predictions – for example when investigating the behaviour of animals (this impossibility also results from irregularity in the behaviour of the objects under examination). Also within a science as exact as quantum mechanics, predicting phenomena might turn out to be impossible, e.g. predicting the movement of a single electron. However, it is still possible, as argued by Armin Teske, to explain in retrospect the causes of its movement and course<sup>49</sup>. Perhaps the humanities have to be satisfied with this kind of retrospective explanation of the evolution of culture.<sup>50</sup>

The level of indeterminism, if one may say so, seems to be lowest in the area of the phenomena of inanimate nature, it grows higher with the appearance of life, and reaches the top level in the area of human activity. The lower the level of indeterminism, the easier it is to make predictions. Still, for Popper – an

<sup>47</sup> As an example, Popper gives the prediction that if temperature rises, water will begin to boil.

<sup>48</sup> K.R. Popper, *Conjectures and Refutations...*, pp. 339–340.

<sup>49</sup> A. Teske, *On the Humanisation of the Natural Sciences*, transl. E. Horoszkiewicz, [in:] A. Teske, *The History of Physics and the Philosophy of Science. Selected Essays* (Wrocław 1972), pp. 119–127, esp. pp. 121–123.

<sup>50</sup> There are humanists who would disagree with this approach, i.e. who believe that predictions are possible in the humanities: "In contradistinction to some experts who declare literary studies [...] to be criticism, art, or a sum of knowledge, we hold the opinion that it may be and sometimes becomes a *scholarly activity* in its own right. This means that a student operating within the discipline can *determine the object* of his/her scholarly interest, and that he/she can *present an explanatory description* of both the observation and the observed object's *functions* [...]. It also means he/she can reach some *verifiable conclusions* about this object, and – in a literary historical perspective – *foresee* the appearance of some phenomena in unknown or yet unobserved material" (A. Zgorzelski, *Against Methodological Compromise in Literary Studies*, [in:] L.S. Kolek (ed.), *Approaches to Fiction* (Lublin 1996), pp. 231–242, esp. p. 233; emphasis in the original).

indeterminist and a proponent of the view of the emergent character of life<sup>51</sup> – any predictions are always burdened by the risk of error.<sup>52</sup>

The postulate of predictions may also be interpreted not as foreseeing the future, but as anticipating the result of conducted research, including the investigation of the past (for example, regarding the fossil findings anticipated by the theory of evolution). In this sense predictions may also be put forward in the humanities: one can, for instance, reconstruct the lost Violin Concerto in G minor by Bach, the original version of the Harpsichord Concerto in F minor (BWV 1056): one day we might be able to compare this reconstruction with the original, although the chances that it will be found seem low.

Leaving aside the reservations concerning the possibility of formulating universal laws, falsifying theories and putting forward predictions in the humanities, one can state in conclusion that Popper's model of science – the search for truth interpreted in terms of correspondence between theory and the facts,<sup>53</sup> critical rationalism as the general methodological principle,<sup>54</sup> the hypothetical status of knowledge<sup>55</sup> and the postulate that language should be treated exclusively as a tool

<sup>51</sup> K.R. Popper, *In Search of a Better World...*, pp. 18–22.

<sup>52</sup> Nature, up to a certain level of complexity, is in its behaviour to some extent determined by the laws of physical matter. Culture, created by man, evolves according to changeable and unpredictable laws which are also created by man (in interaction with all the remaining reality). This is why we can understand the past development of culture but are unable to predict its future course. In so far as man is part of nature, he/she is determined by its laws, but by virtue of his/her free will and self-consciousness, he/she may, or so we can presume, escape its jurisdiction. Incidentally, the Popperian interpretation of evolution ascribes more importance to the changeability of organisms than to the changeability of the environment in the whole world of animate nature (K.R. Popper, *The Myth of the Framework...*, pp. 3–5).

<sup>53</sup> The postulate of truth being the ultimate aim of science may be adopted in the humanities. This is a matter of choice which is, to be sure, entangled in various metaphysical assumptions (concerning the existence of truth, its value and accessibility), yet their rejection (be it in the name of radical scepticism or pragmatism) *de facto* equals resignation from science, if not from any cognitive endeavour whatsoever. There seems to be no difference in this respect between the natural sciences and the humanities.

<sup>54</sup> The scientific method, i.e. critical rationalism, a problem as the starting point, its tentative solution and critical examination of this solution (the trial-and-error method) may be used by the humanists. The similarity of Welsh and Irish or the prominent presence of the narrative in contemporary British fiction may exemplify problems to be solved. The task of the humanists is to find explanations of these phenomena; the conclusions they reach might subsequently become the subject of critical discussion, respecting the rules of logic, aiming to assess the correspondence of the hypothetical explanations with empirical reality (world 3). The Popperian rejection of dogmatism and the demand that objectivism should be based on the method rather than the virtue of scholars (*cf.* note 16) may also be respected.

<sup>55</sup> Ascribing hypothetical status to knowledge, declining from qualifying any theses as ultimately true can doubtless be done in the humanities, as this means greater moderation with regard to the aspirations of the disciplines in question, rather than their expansion. With regard to detailed knowledge, our cognition has been gaining ever greater precision: we know, for example, the chemical composition of water, the value of earthly gravitation, the literary techniques of 'stream of consciousness' and the convention of the Chinese-box structure. The situation is more problematic regarding general theories: we do not know the causes that led to the rise of the universe, we do not understand the connection between the material body and psychic experience, we cannot define 'aesthetic value', the *raison d'être* of art or the limits of interpretation of works of art. On this general level, it is clear enough that we operate in the sphere of various, often competitive, hypotheses, whose value we are continuously testing. Our understanding of

(with the obvious exclusion of the disciplines which investigate language, i.e. linguistics and literary studies) – does not pose serious problems and may be accepted in the humanities, as in fact (perhaps with the exception of the hypothetical status of knowledge) it has been accepted, at least in the form of intuitively respected postulates in the past, from the birth of these disciplines until the middle of the 20<sup>th</sup> century, and by some scholars, also afterwards.

Regarding the reservations mentioned above, “predicting” the future in the humanities seems impossible or possible within very strict limits and burdened with a high risk of error, but then the possibility of making predictions is one of the Popperian conditions of scientific progress, not a distinctive feature of science. The unattainable universality of laws formulated in the humanities no longer strikes one as a very serious defect when one remembers that also in the natural sciences this demand cannot always be met. As far as falsification is concerned, if it is taken not as a strictly logical process (in which a general statement about a phenomenon that must not happen clashes with a single statement that reports its appearance, as in the well-known ‘black swan’ example of Popper), but as various procedures, in which general statements are confronted with empirical evidence, then one might argue that falsification may be adopted as a criterion of scientificity as well as an element of the critical method in the humanities.

According to Popper, the superior rule in science is that of rationality. This rule decides in which situation falsification has to be conducted by means of an experiment and in which it suffices to confront an interpretation with the text; when the research requires the precision of mathematical language and when the natural language is more adequate; when the hypotheses should aspire to the status of universal laws and when a statement informing us of a certain tendency may be satisfactory; in which cases we can make predictions and in which retrospective explanation of events is all that we can wish for. If this is so, then the humanities (on the conditions specified by Popper) may be considered a rightful science<sup>56</sup> and this conclusion, without exhausting the subject (a detailed construction of the Popperian model of the humanities is not the aim of the paper), ends the second part of the present considerations.

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facts, which at the present moment we can fairly well describe and classify (remembering all the time that these facts are also of hypothetical nature), depends on which, among the more general hypotheses, we provisionally accept. Thus, also in the field of the humanities, our knowledge permanently increases, though simultaneously with its increase, our awareness of the limits of this knowledge grows also. An approach along these lines might well be adopted in the humanities.

<sup>56</sup> It does not seem reasonable to renounce the criterion of falsification. This would reduce the humanities to the philosophy of culture or art, where the value of its theories could only be measured with reference to the rule of logical coherence, the reasonability of accepted assumptions, effectiveness in solving problems, compatibility with scientific knowledge (but if there were no humanities, there would be no scientific knowledge of culture, so it is not clear that any such reference could actually be made). Additionally, it seems fairly obvious that the humanities have their empirical object (i.e. objects of world 3; cf. the passage titled *The Problem of the Irrefutability of Philosophical Theories*, [in:] K.R. Popper, *Conjectures and Refutations...*, pp. 193–200).

### 3. Popper's cognitive theory of art — reconstruction

Naturally, the acceptance of the Popperian model of science by the humanities would not solve all their methodological problems. Lack of consensus concerning the very notion of art (fundamental for these disciplines) and the related notion of aesthetic value<sup>57</sup> seems to seriously hinder the progress of these disciplines which, like musicology, history of art, or literary studies, examine art. Only on the basis of a theory of art might it be feasible to specify the aim and range of analysis, the rules of interpretation and, possibly, the criteria of the evaluation of works of art. Popper, famous above all for his theory of science, also presented an outline of his theory of art,<sup>58</sup> which belongs to the cognitive tradition.<sup>59</sup> Popper's interest in art is actually the other reason (apart from the philosopher's uniform theory of science, which does not postulate a sharp division between the natural sciences and the humanities) why, considering a model of the humanities alternative to the currently fashionable poststructuralist model, it makes sense to take advantage of his ideas. Popper noted numerous similarities between science and art; the crucial significance of language in art; and the fact that world 3 (of which art is an element) helps explore, even more than that, co-creates world 2. The aim of the present section is to sketch the cognitive theory of art that can be reconstructed on the basis of Popper's works<sup>60</sup> and, subsequently, to offer a preliminary assessment of the possible consequences this theory might have for the methodology of a scholarly examination of art.

#### CRITIQUE OF THE EXPRESSIONIST AND COMMUNICATIVE INTERPRETATION OF ART

Popper rejects the expressionist theory of art on the grounds that all human life expresses one's personal experiences: "My main criticism of this theory is simple: *the expressionist theory of art is empty*. For everything a man or an animal can do is (among other things) an expression of an internal state, of emotions, and of a personality. [...] In other words it is not a characteristic of art".<sup>61</sup> The expressionist theory of art is actually harmful: "Even today it is almost universally accepted that a work of art is the expression of the personality or of the emotions of the artist. Many composers and artists believe in this theory; and this belief has debased and almost destroyed art".<sup>62</sup> Popper also rejects the theory that art is

<sup>57</sup> Cf. W. Tatarkiewicz, *Historia sześciu pojęć* (Warszawa 2005), pp. 21, 62, 137, 179.

<sup>58</sup> Popper himself, as he reports in *Unended Quest*, was very much interested in music (he played the violin and the piano, tried his hand at composition, considered the career of a musician and for a year studied in the department of church music at the Vienna *Konservatorium*; K.R. Popper, *Unended Quest. An Intellectual Autobiography* (London 2002), pp. 56–59).

<sup>59</sup> Of course Popper's theory of art is not the only cognitive theory of art. A survey of such theories (from which, however, Popper's is missing) can be found in Borowiecka's work (E. Borowiecka, *Poznawcza wartość sztuki* (Lublin 1986), pp. 11–38).

<sup>60</sup> Popper made several comments on the subject of art, especially when discussing language, science, evolution and world 3; they do not, however, form a systematic discussion. The most extensive presentation of Popper's ideas on art may be found in K.R. Popper, *Knowledge and the Body-Mind Problem...; Objective Knowledge...* (pp. 106–190, 289), *In Search of a Better World...* (pp. 7–29, 99–116, 223–232); *Unended Quest...* (pp. 65–82, 221–230).

<sup>61</sup> *Ibidem*, p. 67.

<sup>62</sup> K.R. Popper, *In Search of a Better World...*, p. 104.



about communication: communication is a function of all languages, the languages of animals included,<sup>63</sup> hence this theory also fails to capture the specific character of art.<sup>64</sup>

#### ART AS LANGUAGE

The above critique becomes comprehensible, first of all, in the context of Popper's belief that art – not only literature, but also painting or music – is basically a language;<sup>65</sup> and, secondly, in the context of the theory of language that Popper took from Bühler and subsequently developed. Following this theory, language fulfils four basic functions: expressive, communicative, descriptive (informative) and argumentative (critical) – in this order. The natural language of man shares the former three functions with other languages (though languages of animals fulfil the descriptive function only in exceptional cases); the fourth – the argumentative function – is proper only to human language. The presence of any subsequent (higher) function in an utterance requires the presence of all the preceding (lower) functions. Popper speaks of expressive and communicative functions only when the message contains no information or, to be exact, no information other than that concerning the physiological state of the sender's organism.<sup>66</sup> Only the descriptive and argumentative functions make the transmission of information (either true or false) and its critical examination possible.<sup>67</sup> It is on the basis of these functions that man has developed the ability to lie, fantasize, tell tales and search for explanations. It is these functions that are crucial for the evolution of man.<sup>68</sup> That is why Popper criticizes expressive and communicative theories of language, which reduce language to expressive and communicative functions, thus ignoring what is most salient for man.

#### ART – DESCRIPTION OF REALITY

Popper's critique of the expressive and communicative theories of art should be

<sup>63</sup> K.R. Popper, *Unended Quest...*, p. 82. This justification is worth noting in so far as it testifies to Popper's assumption that art is a language.

<sup>64</sup> Popper also criticizes a slightly different version of the above theories according to which art conveys messages of which the artist need not be aware, whose source might be either divine or unconscious (K.R. Popper, *Knowledge and the Body-Mind Problem...*, p. 32).

<sup>65</sup> Popper believes that language plays an essential role in art as well as in science, including mathematics (*ibidem*, pp. 37–38).

<sup>66</sup> An example of a pure expressive function supplied by Popper is that of a yawn in solitude. The same yawn in the company of other people, where it may evoke some response, is a combination of expressive and communicative functions.

<sup>67</sup> Every use of either the descriptive or argumentative function involves the use of expressive and communicative ones.

<sup>68</sup> K.R. Popper, *Knowledge and the Body-Mind Problem...*, pp. 79–92. The breakthrough, according to Popper, happens when language in its descriptive function is employed with the purpose of lying (this is the word Popper uses, but the phrase “creating fiction” might perhaps be more adequate): “But then came the point when language could be used for lies, for ‘storytelling’”. This seems to me the decisive step, the step that made language truly descriptive and truly human. It led, I suggest, to storytelling of an explanatory kind, to myth making; to the critical scrutiny of reports and descriptions, and thus to science; to imaginative fiction and, I suggest, to art — to storytelling in the form of pictures” (K.R. Popper, *Unended Quest...*, p. 221; slightly doubtful is the position Popper attributes, in the process described above, to lying because narrative need not imply fiction, let alone lies).

understood by analogy. Popper does not question the fact that art expresses and communicates some information about the artist's state.<sup>69</sup> However, he protests against reducing art to either expression or communication, defending its much more important ability to describe reality<sup>70</sup>. Recognizing the descriptive function of art, Popper refuses to ascribe the argumentative function to art; it seems that in his opinion there is no place within art for a critical discussion of the artistic description (representation) of reality. Even though language, in his opinion, fulfils in addition to the descriptive function also the argumentative one, and it would be reasonable to expect that art, being language (for this is how Popper understands art), will also perform this function, Popper attributes it to science, not art. This decision seems mistaken. The novel in particular goes beyond the stage of description when it subjects various representations of the world to critical evaluation, for example by contrasting them with each other (as demonstrated by Bakhtin's theory of polyphony in the novel) or by introducing critical reflection into the text (most fully in the genre of the novel of ideas).

#### CRITICISM IN SCIENCE AND ART – COMPARISON AND CONTRAST

Even though it is, above all, science (not art) that is concerned with cognition, according to Popper, art and science have much in common anyway (or so one may argue, generalizing what Popper says about poetry, music and natural science): they derive from myth, their original purpose was to help man explain the world and understand oneself,<sup>71</sup> they demand imagination, intuition, a sense of form and an element of criticism. It is especially this element of criticism that interests Popper. In art this is aesthetic criticism, which concerns aesthetic values, focuses on form and takes place within the creative act itself (it is the artist's creative self-criticism), whereas in science this is rational criticism, which concerns cognitive value, focuses on truth and comes both from the author and other researchers<sup>72</sup>. What distinguishes science is precisely that – truth-oriented critical rationalism<sup>73</sup>.

Thus we have here both comparison — art and science share their origins, the initial cognitive task, creative and critical elements, and contrast — only in science is truth the regulative idea, in art these are form-related aesthetic values;

<sup>69</sup> "But this is merely a psychological aspect of the matter, and for this very reason of minor importance. The important thing is the work of art" (K.R. Popper, *Unended Quest...*, p. 67).

<sup>70</sup> K.R. Popper, *Knowledge and the Body-Mind Problem...*, pp. 93–94. We can speak here of communicating cognitive content, beginning with the most basic ideas (e.g. other people exist, they feel the need to share their experience of life, which in some respects may resemble ours) and then moving on to more refined ones (e.g. the thought from *The Nigger of the "Narcissus"* that consciousness might be a burden that impoverishes human ability to be heroic and victorious in one's struggle with the challenges of life).

<sup>71</sup> "They [poetry, music and science] stem from the attempt to understand our origin and our fate, and the origin and the fate of the world" (K.R. Popper, *In Search of a Better World...*, p. 227).

<sup>72</sup> *Ibidem*, pp. 225–232.

<sup>73</sup> *Ibidem*, pp. 53–54. Cf. "What is the characteristic difference between a scientific theory and a work of fiction? It is not, I hold, that the theory is possibly true while the descriptions in the story are not true, although truth and falsity have something to do with it. The difference is, I suggest, that the theory and the story are embedded in different critical traditions" (K.R. Popper, *Objective Knowledge...*, p. 289).

further, in science, criticism takes the form of public discussion, whereas in art it is present first of all in the creative act.<sup>74</sup> Oddly enough, Popper does not seem to attach much importance to the phenomenon of art criticism or the interaction between the artist and the art recipient(s), though in the context of Popperian appreciation of criticism, it would seem reasonable to treat a work of art together with its critical reception (as well as the responses of other artists embodied in their works) as a whole. On this account, a work of art, i.e. a hypothesis concerning an aspect of the world, is but a part of the process of problem solving<sup>75</sup> and finds its completion in the critical debate. In this way one could account for the universal phenomenon of art criticism (criticism which has adopted an almost institutional form, cf. the critical programmes on TV or the radio, critical reviews in the press, artistic competitions and festivals). It seems that the function of such criticism does not consist merely in examining art (this is the task of the humanities),<sup>76</sup> or its popularisation, but in entering in a dialogical relation with artists and providing them with feedback information, which may be useful in their further artistic activity.

Defining in greater detail the criteria of evaluation employed in literary criticism, Popper limits them to aesthetic value, leaving the assessment of the value of the work in terms of truth or problem-solving capacity (the validity of problems, exhaustive presentation, etc.) to non-literary criticism: "In literary criticism the term [criticism] is extended so that you may accept that a story is false<sup>77</sup> and then criticize its literary merits. In non-literary criticism, there are other important points besides the truth of a story to be evaluated – such as its relevance or its completeness. These two points presuppose that the story is told in order to solve some *problem*".<sup>78</sup> This division of criticism into literary and non-literary, in my opinion, wrongly limits the scope of the former: if describing the world is the primary task of art, then it seems incomprehensible why art should be evaluated as art with the exclusion of its cognitive value.

#### ART AS CREATIVITY AND TRANSCENDENCE

The element of criticism inherent in a creative act is of fundamental importance.

<sup>74</sup> Another difference between science and art, for Popper, concerns progress. Convinced of progress in science, he questions its presence in art, tentatively allowing, however, for some progressive changes in technology or formulation of problems due to the artist's acquaintance with the accomplishment of his/her predecessors (*Unended Quest...*, pp. 75–80).

<sup>75</sup> More on the subject of this dimension of art (i.e. art as solving problems) in the forthcoming paragraphs.

<sup>76</sup> It is important to distinguish art criticism, reviewing contemporary cultural events for the public and possibly in the first place the artists, describing often in highly subjective terms the experience of a given artwork, from scholarly examination of art, though to the terminology – here Zgorzelski pointed out that it may be misleading (*Against Methodological...*, p. 231).

<sup>77</sup> Also here Popper does not seem to distinguish between fiction and falsehood.

<sup>78</sup> K.R. Popper, *Knowledge and the Body-Mind Problem...*, pp. 91 (emphasis in the original). In the discussion which took place after the lecture and whose transcription can be found in the book, Popper introduces a distinction between two kinds of truth: in science, truth consists in correspondence to the facts, in art truth is "good lying – undetectable lying" (*ibidem*, p. 96). This slightly shocking definition of truth in art, however, is most probably a side-effect of Popper's identification of fiction with falsehood.

Art may be interpreted as solving problems in the process of interaction (feedback) between the artist's mind and the work of art<sup>79</sup>. The work which comes into being as a result of mutual influence of world 2 and world 3 transcends the initial project, image or idea with which the artist has begun his/her work.

The influence is reciprocal. World 3 (above all language, but also art) has helped man develop the full consciousness of self,<sup>80</sup> giving him/her a chance to view themselves from the outside. People have gained insight, as well as a chance to create themselves. World 2 (the world of psychic experience) however, is not entirely autonomous with reference to World 3 (the world produced by the human mind); although world 2 shapes this world (world 3), it is also itself subject to its influence,<sup>81</sup> not necessarily in the way intended by man or with man's full awareness of the fact.<sup>82</sup>

This ability to create world 3 and (based on the feedback mechanism) of oneself seems to be constitutive of man's freedom and responsibility.<sup>83</sup> Popper strongly emphasizes the importance of the self-transcendence of which man is capable, thanks to world 3: "The incredible thing about life, evolution, and mental growth is just this method of give and take, this interaction between our actions and their results, by which we constantly transcend ourselves, our talents, and our gifts. This self-transcendence is the most striking and important fact of all life and all evolution, and especially of human evolution".<sup>84</sup>

In a broader evolutionary perspective, this means that it is a function of the mind to produce objects of world 3 (language and works of art included) and interact with them.<sup>85</sup> Products of the mind (such as the English language or *Hamlet*), similarly to dams built by beavers, are "exosomatic tools"<sup>86</sup> helpful in solving problems, some of which (not necessarily all of which) might be directly related to the struggle for survival.<sup>87</sup> Problem solving is, for Popper, the essence of life.<sup>88</sup> However, one should bear in mind that the solution of one problem as a rule gives rise to another problem, and this also applies to world 3.

<sup>79</sup> *Ibidem*, pp. 20–22, 30–32. In *Unended Quest...* Popper gives some examples of problems that a composer may face (pp. 74–75).

<sup>80</sup> The beginnings of personality, according to Popper, may be observed already among higher animals (*Unended Quest...*, pp. 222–225).

<sup>81</sup> K.R. Popper, *Knowledge and the Body-Mind Problem...*, pp. 114–115.

<sup>82</sup> Although created by man, world 3 exceeds his/her intentions (for example, by creating a system of numbers, involuntarily man has led to the rise of prime numbers; *Knowledge and the Body-Mind Problem...*, pp. 24–32, *Objective Knowledge...*, pp. 115–119).

<sup>83</sup> K.R. Popper, *Knowledge and the Body-Mind Problem...*, pp. 140–142.

<sup>84</sup> *Ibidem*, pp. 140–141. "If I am right in my conjecture that we grow, and become ourselves, only in interaction with world 3, then the fact that we can all contribute to this world, if only a little, can give comfort to everyone;" (*Unended Quest...*, pp. 229–230). Elsewhere Popper explains that the influence of world 3 on even the most creative people by far exceeds the contribution they might make to world 3 (*Objective Knowledge...*, p. 147).

<sup>85</sup> K.R. Popper, *Unended Quest...*, p. 221, *Knowledge and the Body-Mind Problem...*, p. 7.

<sup>86</sup> K.R. Popper, *Knowledge and the Body-Mind Problem...*, p. 34.

<sup>87</sup> *Ibidem*, pp. 55–63.

<sup>88</sup> K.R. Popper, *Objective Knowledge...*, p. 148. Cf. "The tentative solutions which animals and plants incorporate into their anatomy and their behaviour are biological analogues of theories; and vice versa: theories correspond (as do many exosomatic products such as honeycombs, and especially exosomatic tools, such as spiders' webs) to endosomatic organs and their ways of functioning", (*Objective Knowledge...*, p. 145).

Summing up, art, which in some fundamental sense is a language, fulfils for Popper, apart from expressive and communicative functions, a most important cognitive function – even though he limits art to descriptions of the world (to the exclusion of their critical examination) and reduces art criticism to aesthetic evaluation. Describing the world, explaining it through story-telling, examining oneself (one's internal subjective world) by means of art as if one were an object that exists externally and objectively – this is how art can serve cognitive purposes. Further, art gives man a chance to create him/herself as well as the surrounding world, i.e. it acts as an important factor in emergent evolution.

#### ART – COGNITION OF WORLD 2

Although Popper does not formulate this thought explicitly, it seems that his theory might be reasonably extended by the hypothesis that the proper object of artistic cognition is the inner world (world 2), which evades other cognitive efforts: “Why, we could ask, are we at all successful in speaking about reality? Is it not true that reality must have a definite structure in order that we can speak about it? Could we not conceive of a reality which would be like a thick fog – and nothing else, no solids, no movement? Or perhaps like a fog with certain changes in it – rather indefinite changes of light, for example? Of course, by my very attempt to describe this world I have shown that it *can* be described in our language, but this is not to say that *any* such world could be so described. [...] In fact I believe that we are all most intimately acquainted with a world that cannot be properly described by our language which has developed mainly as an instrument for describing and dealing with our physical environment – more precisely, with physical bodies of medium size in moderately slow motion. The indescribable world I have in mind is, of course, the world I have ‘in my mind’ – the world which most psychologists (except the behaviourists) attempt to describe, somewhat unsuccessfully, with the help of what is nothing but a host of metaphors taken from the language of physics, of biology, and of social life”.<sup>89</sup>

Art, seemingly useless, is perhaps concerned with the cognition (with the help of language as in the novel or without it as in a piano concert)<sup>90</sup> of world 2.<sup>91</sup> This interpretation of art as exploring human consciousness would justify the critics' inclination to approach art in psychological terms, for it would be impossible not to mention world 2 when discussing art on the assumption that art explores world 2. At the same time, the excessive one-sidedness of their approach, as argued by Popper, might be erroneous: art must not be reduced in its function to expressing world 2 – exploration involving much more than mere expression.

If art is non-scientific cognition, then it is not limited by the formal rules of science (such as the rules of logic, critical discussion or simple language); everything

<sup>89</sup> K.R. Popper, *Conjectures and Refutations...*, p. 213.

<sup>90</sup> The distinction is not valid if language is understood more broadly, not merely as a natural language. Popper, finding language in art and mathematics, seems to opt for such broad interpretation where language is taken as an open system of signs.

<sup>91</sup> The thought that works of art serve as tools that help man explore his/her inner world, I owe to my father. It fits very well in Popper's view of art, though, as far as I know, Popper does not formulate it explicitly.

- the mode of fiction, fantastic transformation of reality, any artistic material – is permissible as long as
  - striving after truth remains the primary objective; otherwise we cannot reasonably speak of cognition (this condition seems the most important),
  - the postulate of aesthetic value<sup>92</sup> (related to the fact that art explores by means of form) is respected (cognition by means of form is the distinctive feature of artistic cognition),
  - the postulate of originality is also respected (any human activity is characterized by this quality of uniqueness/unrepeatability, but in art this is reinforced by the rule forbidding passive imitation; in fact the postulate of cognitive value excludes imitation anyway).<sup>93</sup>

One could add that, just as in science, there is both proper research and popularisation of the results obtained in the process of scientific investigations – so in art one could differentiate between the exploration of one's inner world and publication of the discoveries (where the latter might be the prerogative of didactic art).

#### 4. The methodology of art studies in the context of Popper's theory of art

Accepting the view that art, like science, examines reality – inner reality (world 2, like psychology, one of the social sciences) to be precise, not external reality (world 1, like natural science, or world 3, like the humanities) – would not fail to affect the concept of the humanities, especially art studies, which under such circumstances would become a science whose proper object is non-scientific (i.e. artistic) cognition. In other words, the relation between art and the humanities would look as follows: among various objects of world 3 there are some which serve to explore (in a non-scientific mode) and transform world 2, and this is art; among various objects of world 3 there are also some which serve to examine (in a scientific mode) objects of world 3, art included, and these are the humanities.

<sup>92</sup> Even if priority is given to the cognitive value of art, there is no way one can escape the notion of aesthetic value with all its indefiniteness. It seems that Popper might favour the concept of aesthetic value defined in terms of formal perfection rather than beauty (in his *In Search of a Better World...* Popper mentions beauty as one of various formal categories that aesthetic criticism should take into account, pp. 226–227. Developing Popper's thought, one might construct the concept of aesthetic value as formal perfection taken not in itself, but with reference to the message conveyed by a given work of art.

<sup>93</sup> Such cognitive theory of art seems to miss the element of uselessness, which for a long time has been perceived as an essential element of artistic creations. According to such a traditional approach, man, like other species, struggles to survive – most of his/her life activities are subordinate to this very task. What is unnecessary or redundant in terms of the evolutionary economy – heroic exploits or works of art – calls for admiration. What we appreciate in art is its autonomy: that it seems devoid of any purpose beyond itself, that it exists only for its own sake, thus ignoring the biological rules that govern all animate nature, conveying a (possibly illusionary) sense of freedom. Uselessness has thus been related to transcendence. Cognitive theory of art denies this element of uselessness, explaining that art is useful as it fulfils an important cognitive function. Indeed, Popper perceived the element of transcendence elsewhere: in the mutual influence of worlds 2 and 3 and the theoretically limitless progress that might be its result (*cf. Objective Knowledge...*, pp. 146–150).

Popper is cautious when formulating his ideas about the scholarly examination of works of art. He suggests that understanding an artwork might be similar to understanding a scientific theory: the main point is to identify the problem that a work of art or a theory is trying to solve and to identify the background of the problem.<sup>94</sup> “It may be interesting and fruitful to investigate how far we can apply situational analysis (the idea of problem solving) to art, music, and poetry, and whether it can help our understanding in these fields. That it can help in some cases I do not doubt. Beethoven’s notebooks for the last movement of the Ninth Symphony show that the introduction to this movement tells the story of his attempts to solve a problem – the problem of breaking into words. To see this helps our understanding of the music and the musician. Whether this understanding helps our enjoyment of the music is a different question”.<sup>95</sup>

The possible implications of the Popperian view of art for the study of art are worth considering in greater detail. Firstly, when analysing art it seems a mistake to underestimate its cognitive value. The cognitive results might be either “objective”, i.e. they might constitute a shared accomplishment of a given culture (attempts to render in literature the unconscious, prior to the publication of Freud’s works might be a case in point) or, more often, “subjective”, i.e. belonging to individual experience, hence more difficult to capture (for example, when a reader of *Waterland* by Graham Swift realizes how important narratives are in human existence).<sup>96</sup>

Secondly, in addition to the assessment of the cognitive value of art, it would be reasonable to examine the impact of art on world 2: the psychic life of artists in the first place and also of the recipients of art, given that by creating art (possibly also by responding to art) man also indirectly creates him/herself.

Both these criteria of assessment seem even better justified in the case of literature and other kinds of art which employ language (in the narrow meaning of the word, i.e. natural language) as their artistic medium, language itself being a product of the human mind and one that, according to Popper, has contributed to the greatest degree to the development of human personality. The two higher functions of language – descriptive and argumentative – are present in literature (to some extent also in other kinds of art). This is an additional incentive to examine literature not only in terms of its form (the proper execution of the principles of composition), but also in terms of its representation of reality (the adequacy of the representation of the real world by means of the fictional one, or the soundness of the critique of various representations of reality offered in a given work of literature) and, finally, in terms of its creative potential (i.e. ability to transform the human mind).

<sup>94</sup> K.R. Popper, *Objective Knowledge...*, pp. 179–180.

<sup>95</sup> *Ibidem*, pp. 182–183.

<sup>96</sup> The task of assessing the cognitive value of art is fraught with difficulties, as both the acts of the creation and the reception of art are basically individual (not collective) acts, which take place in world 2 (the world of subjective experience). Their effects – works of art or critical opinions about art expressed in public – however, belong to world 3, i.e. to the objective reality. It seems that with reference to these it should be possible to formulate hypotheses concerning the cognition or insight gained by means of a given artwork.

Thirdly, considering the importance of criticism in culture, it would seem reasonable to combine the examination of works of art with the examination of their critical reception, as well as the response that a given work of art has inspired in other works.

One can immediately see two basic problems facing art studies conceived along the lines sketched above. One problem relates to the difficulty of translating into logical and rational discourse, cognitive content whose proper object is often irrational<sup>97</sup> and non-verbal (human psychic experience) and expressed in art *via* form as well as the world presented as a model of reality (in the case of representational art) and language (in the case of verbal art). Apparently there is no one simple way to accomplish this, but it might be worth pointing out that the situation of the natural sciences is not so very different: a frog too, for example, is neither verbal nor fully rational. The other problem, mentioned above, is the lack of clear criteria of aesthetic quality. The assessment of artistic form might perhaps be related to this form's participation in the cognitive endeavour of art. A description and analysis of the form of an artwork should then be complemented by an interpretation of its meaning (i.e. the form's contribution to the meaning of the work) and an assessment of the total cognitive result.

The necessary rules of interpretation and evaluation for art studies might be worked out with reference to the cognitive aim of art (i.e. the identification of the artistic problem and critical assessment of its solution) as well as the method of broadly understood falsification (i.e. falsification conducted not by means of experiment but formal analysis – if art explores by means of form – examining in the course of critical discussion the coherence, comprehensiveness and rationality of humanistic argumentation).

Among the tasks of art studies conceived from the above model, one might enumerate recording cognitive results achieved by means of art, examining how art (single works of art, or certain artistic traditions, the Victorian novel, for example) achieves its cognitive objective, and how it fulfils the postulate of aesthetic value (this task would involve analyzing the relationship between form and cognitive content); assessing the impact of art on man, discussing the history (evolution) of art.

### Conclusion

In light of the above considerations, it seems that Popper's theory of science may be applied to the field of the humanities and it may provide the criteria demarcating the limits beyond which the humanities lose the status of science; it may also serve as the methodological basis for these disciplines.

The cognitive value of the humanities consists in this approach in their striving after truth about culture (their object), by continuously replacing hypotheses which less successfully correspond with the facts, with those which correspond to

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<sup>97</sup> This need not necessarily imply that cognition by means of art is irrational. Art, along this approach, explores partly irrational aspects of reality (human psychic experience), but the irrationality of its object need not affect art (in the way that the alleged irrationality of art need not result in the irrationality of the humanities).



the facts more successfully; by putting forward tentative solutions and eliminating in the process of critical discussion, any errors they might contain. The criterion of the scientific status of a theory is its falsifiability: to be falsifiable a theory must say something about reality. Given that their theories meet this criterion, the humanities may count as science. This, indeed, seems to be the case, i.e. the criterion of falsifiability may be applied, though depending on the specific discipline and the object of research, one may need to be satisfied with either lesser or much lesser precision in comparison with natural science (linguistics or archaeology belong to the former group of disciplines, whereas literary studies, especially when they are concerned with interpretation of works of art, are an extreme case of the latter group).

It is true that each person's encounter with art is individual and unique. The same is also true about a person's encounter with all reality. Common sense, however, discourages one from adopting the position of radical scepticism. At the bottom of almost any action lies the assumption that reality is objective in its existence and basic properties. There is no need to make an exception for works of art. Regardless of who reads (and when they read) *The Nigger of the "Narcissus"*, the novel's mode of narration will oscillate between the objective report of an external narrator and the subjective account of the first-person collective protagonist; likewise Hamlet will keep asking the same question, "To be, or not to be?" A real, empirical object of world 3 is in each case the point of reference.

The scientific approach to reality is not the only possible approach, but regarding the search for the truth about the world (world 1 in any case), it remains unrivalled. Theologians attempt to subject the supernatural world to scientific reflection; if so, there seems to be no reason why the world of culture should be excluded from the domain of scientific examination.

If the humanities may be treated as empirical science and structured along the model of science put forward by Popper (in spite of all the difficulties involved in falsification, formulation of predictions and universal laws), then it might be worth considering whether this approach might provide the humanities with an efficient method of defence against irrationality: ideological dogmatism on the one hand, and relativism (which in its poststructuralist variant is likewise dogmatic), on the other. This indeed seems to be the case. The Popperian rejection of dogmatism questions the scientific status of such approaches as feminism, post-colonialism, psychoanalysis or deconstruction. These remain important traditions within culture but cannot compete with scholarly analyses or interpretations. The status which the "dogmatic" approaches enjoy is that of pre-scientific social, political, philosophical or psychological theories (*nota bene* the word pre-scientific should not be taken here as pejorative). Absence of the basic scientific aim – cognition of truth – and lack of respect for the rules of logic, empirical data and the ideal of clear language, disqualify in turn all deconstructionist discourse as non-scientific.

To differentiate between feminism, psychoanalysis or deconstruction and the "true" science, one need not necessarily refer to Popper. It suffices to retrieve the model of science that was *de facto* taken for granted in European (and American) culture until the mid-twentieth century. It is only then that the postulates of sci-

ence free of ideology and directed at truth were seriously questioned. Nonetheless, Popper's theory helps thoroughly justify the decision to revert to the past ideals.

In the dispute with post-structuralism Popper's theory does not offer a simple solution. Poststructuralists reject science as a perilous game, a form of (intellectual) dominance and repression, which reduces and simplifies reality, claiming to be objective and true. This claim, they argue, is groundless, as any narration or discourse about science is not ideology-free. Poststructuralists therefore choose irrationality, freedom from the dominance of reason, methodology and logic. Their attitude is dictated by the belief that there are no facts, no truth, no objectivity; that it is important to deconstruct the illusion that they exist. The choice of rationality cannot be proved – it is a choice Popper admitted – an act of faith. But the decision, according to Popper, is neither wrong nor irrational, pragmatically speaking: “a *pragmatic belief in the results of science* is not irrational, because there is nothing more ‘rational’ than the method of critical discussion, which is the method of science. And although it would be irrational to accept any of its results as certain, there is nothing ‘better’ when it comes to practical action: there is no alternative method which might be said to be more rational”.<sup>98</sup> Summing up, one could say that there is no ultimate justification for rationality: the choice of rationality is an act of faith; but the rationality of this act of faith may well be justified: there is no competitive, more rational choice, the scientific method, albeit unjustifiable, bringing truly impressive results.

The other issue discussed in this paper is the possible use of Popper's theory of art to define the essence and methodology of sciences concerned with art. It has been argued that the cognitive theory of art might help define with relatively high precision the proper aspect of art for the humanities to examine. If the role of art is, firstly, to examine and, secondly, to transform the human mind (and only subsequently to inspire various kinds of experience, such as delight, amusement or *catharsis*), then this (exploration/transformation of the mind) should be in the centre of scholarly interest. Aesthetic categories as such are less important, the major significance being their contribution to the cognitive function of art.

On the basis of the above considerations, it seems possible to make a tentative list of rules regulating research on art, such as the principle of the competition of hypothetical, falsifiable interpretations, the principle of examination of an artefact with reference to the problem facing the artist, in the context of other objects of world 3, and together with the history of the work's critical reception (but without paying too much attention to the subjective, creative experience of the artist); the principle that gives priority to the assessment of the cognitive value of an artwork. The above rules are enumerated here merely as examples to show that Popper's

<sup>98</sup> K.R. Popper, *Objective Knowledge...*, p. 27. Bryan Magee, a disciple of Popper, interprets the choice of rationality in a slightly different way when he argues that Popper “[...] not just admits but argues at some length that in the last resort it is impossible to put rationality itself on rational foundations. When all analysis has come to an end, our belief in rationality is an act of faith, and an act of faith that can be justified, if at all, only by our success in meeting criticisms and surviving tests. He does not believe in ultimate foundations, neither for morality, nor for rationality, nor for knowledge, and his philosophy asserts that they do not need to be postulated in any of these fields”, (B. Magee, *Confessions of a Philosopher* (London 1998), p. 249).

theory may not only serve to build a highly abstract model of the humanities, but it can also help work out their methodology.

This presentation of the way in which Popper's theory of science and art (modified where advisable or necessary) might be applied in the humanities is obviously merely a sketch of a project, but one that might deserve more interest in the future in the face of, on one hand, the challenges facing the humanities and, on the other, the richness of Popper's thought which has not yet been properly exploited.