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Two Rationalisms and Irrationalism[*]

ABSTRACT. This paper distinguished two kinds of rationalism. The first, called "anti-irrationalism" by Ajdukiewicz, is characterized as knowledge which is intersubjetively testable and communicable. The second one is represented by views of such philosophers as Plato, Descartes or Leibniz relying on a special kind of intellectual rational intuition. The author argues that rationalism in the second sense leads to irrationalism. Rationalism as anti-irrationalism can be analyzed *via* game-theory.

KEY WORDS: science, philosophy, religion, intuition, method

Introduction

The controversy rationalism/irrationalism is very old, but still discussed in contemporary philosophy. Rationalism in European culture was (and still is) the winning party in this debate.[1] It formulated postulates, claims, and challenges, frequently with arrogant rhetoric and strong condemnations against irrationalism. Most philosophical Copernican revolutions from Plato to Husserl, for instance that of Kant, were proposed in the name of rationalism. In fact, rationalism is considered as one of the most characteristic attributes or features of the European mind as basically constituted by three main factors: Greek philosophy, Roman law and the Christian religion. So-called European or Western rationalism has, according to rationalists, its contrast in the Eastern mentality, characterized as deeply mystical and thereby just irra-

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[*] This paper is essentially based on Woleński 2003, but it is its extended version.

[1] Please, however, look at remarks at the end of this paper.

tional. Irrationalism remains in a deep defence and has asked for tolerance for it, at least in Europe and related cultures (American and Australian). This situation did not change when postmodernism, commonly regarded as a kind of irrationalism, appeared on the contemporary philosophical stage. The same evaluation concerns sociological and historical trends in the philosophy of science, represented, for example, by the strong program in this field. Some sociologists point out that we observe a revival of irrationalism in daily life, due to the popularity of magical practices, unconventional medicine or the rise of various small religious movements. However, other sociologists claim that these facts appear at the margins of mass culture, which is rational according to statistical regularities.

I will not enter into details of the complex issue related to the cultural perspective of the controversy in question, for instance I will not discuss the question of how far new directions in the philosophy of science are irrational or proposing a compromise between irrationalism and rationalism. Yet it is clear that several topics should be distilled from this general picture. For example, religion is very often considered as a paradigm of irrationalism. On the other hand, the above mentioned description of the European spirit comprising Christianity as a component of the Western mentality gives an occasion for a discussion whether religion is at odds with rationalism or not. Although one could say "Yes, it is", the opponent of this view would answer "OK, but a part of Christian theology accepts rationalism as its background and this feature is unique in the family of proposed theologies". A similar debate, but just with the opposite angles as points of reference, concerns science. On the one hand, the scientific enterprise is, so to speak, rational *per se* and serves to the progress, cognitive as well as social, of the human kind; but on the other hand, some people argue that science is fatally irrational and can cause a total catastrophe of humanity. To close these introductory remarks, we have the question "Is continental philosophy rational, but the Anglo-Saxon irrational?" These observations suggest that one has to be very careful with the diagnosis of what rationalism and irrationalism are and what they are not.

General remarks on rationalism

Let me start with some very elementary observations, well-known from the history of philosophy.[2] The term "rationalism" is derived from the Latin noun *ratio* (reason).[3] This word (but also the term *intellectus* frequently used in the Middle Ages) were the Latin counterparts of the Greek words *logos*, *nous* and *dianoia*. Disregarding ambiguities, particularly of the term *logos*, the division of human cognitive faculties into those based on reason and those based on experience always played the fundamental role for epistemology.[4] Roughly speaking, the opposition between two main competing epistemological views, namely empiricism and rationalism, consists in favouring either reason or experience as the main tool of achieving knowledge. While empiricism claims that experience (in particular, sense-perception) functions as the main source of knowledge, rationalism attributes the same role to reason. Historically speaking and restricting personal examples to the end of the 19th century, Parmenides, Plato, Descartes, Spinoza, Leibniz, Kant, Fichte, Schelling, Hegel or Neo-Kantians can be pointed out as typical representatives of rationalism, but Aristotle, Bacon, Locke, Berkeley, Hume, *les philosophes* of the French Enlightenment, Comte or Mill are among the protagonists of empiricism.

Yet the above characterization is very rough and insufficient even as a preliminary approximation of what is rationalism and empiricism. We have at least three additional important questions, namely:

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[2] Nelson, 2009 is the most comprehensive account of various aspects of rationalism. I follow [Ajdukiewicz, 1973] in many questions.

[3] See [Beckmann, Bickmann, Bremer, Enders, Hasse, Hoenen, Horn, Largier, Leinkauf, Metz, Ollig, Rapp, Schlotter, Senger, Speer, Trappe, Volpi, 2001], and [Wildfeurer, 2011] for detailed historical accounts of terminology related to *ratio* and cognate words.

[4] Note that this account excluded understanding of reason as a base for something, for instance, for justification. I do not claim that this meaning of "reason" has nothing to do with rationalism, but only that I am not interested in this aspect of reason. In Polish, "racja", which is an admissible translation of *ratio*, also means the antecedent in the relation of logical following. Thus, the relation of logical consequence connects "racja" and "następstwo" (the consequent).

    A. Is knowledge and cognition the same?

    B. How does reason (resp. experience) function in knowledge (cognition)?

    C. What does it mean that reason (resp. experience) plays the main role in knowledge (cognition)?

A clarification of the questions (A) and (B) and explanation (even partial) of concepts involved in their formulations, constitutes an important task for a proper account of rationalism and irrationalism.

Ad (A) This question is related to the distinction of *episteme* (knowledge in the proper sense, which is infallible by its nature) and *doxa* (opinion, which is committed to errors), introduced by Parmenides and refined by Plato. Plato himself, however, observed that *doxa* can be more or less justified. Hence, a very natural proposal to identify *episteme* with knowledge and *doxa* with cognition encounters serious conceptual difficulties. This problem became a topic of numerous analyses and controversies in present philosophy, for instance, concerning typically the famous questions, like "Is knowledge a true, justified belief?" or "What is the sufficient epistemic justification?" Due to lack of space, I cannot address this hot problem in this paper.[5] In order to have a convenient vocabulary, I will, however, consider knowledge as a justified *doxa* (leaving without further explanations the meaning of "justified" in this context) and apply *episteme* as a label for knowledge in Plato's and similar thinkers, e. g. Descartes, Spinoza, Leibniz or Kant as the principal representative of this view; yet their ideas about *episteme* considerably differed, not only in details. This move allows to resign from speaking about cognition, except for some explicitly intended remarks in cases in which invoking this category is helpful for my analysis.[6]

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[5] See [Shope, 2004] for a survey of the discussion around this question. Let me note that the same troubles plague the German term *Erkenntnis*. Consequently, we have an ambiguity in the labels "epistemology" and "theory of knowledge".

[6] It is perhaps interesting that psychologists avoid the term "knowledge" and prefer the word "cognition". Hence, we have textbooks titled *Cognitive Psychology*, but not *Psychology of Knowledge*.

Ad (B) A customary epistemological distinction proposes to distinguish genetic rationalism (nativism) *vs*. genetic empiricism and methodological rationalism (apriorism) *vs*. methodological empiricism (aposteriorism).[7] Nativism assumes that *episteme* and its constituents are innate in the human mind, but genetic empiricism takes knowledge (as justified *doxa*) as acquired by experience. *Episteme* of forms (Plato), the concept of substance (Descartes), God's (Nature) attributes (Spinoza), basic a priori truths (Leibniz) or time and space (Kant) are examples of innate elements. Aristotle, Locke, Berkeley and Hume as representatives of genetic empiricism rejected innate ideas and maintained that knowledge is constructed from simple experiential ideas. Note that there are some conceptual problems related to the distinction of nativism and genetic empiricism. The nativism must say that knowledge (as *episteme*) is innate and either admit cognition as a *doxa*, which is somehow inferior, or to deny its cognitive value. On the other hand, the genetic empiricist can contrast knowledge and cognition, and even to accept *episteme* in some cases (Aristotle).

Apriorism says that reason provided the method of acquiring *episteme*, but aposteriorism ascribes this role to experience. We can observe the same problem with knowledge and cognition as in nativism and genetic empiricism. The nature of innate ideas is the main problem of nativism. It is a result that while the mechanism of experience can be more or less adequately described, for example by pointing out the senses, reason is a very abstract faculty which cannot be identified with any part of the human organism. The apriorist tries to consider *episteme* as conditioned by the structure of the mind, but it can be considered no more as a starting point for further analysis. For instance, it is very controversial whether Kant was speaking about the organization of individual minds or considered the Transcendental Mind as the actual *locus* of *episteme* and its constituents. Clearly, apriorism and nativism are closely related and the same concerns

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[7] See [Ajdukiewicz, 1978, pp. 22–45]. The distinction pertains to the problem of the sources of knowledge (or/and cognition). Unfortunately, most English works on epistemology neglect the distinction between sources of knowledge (cognition) in the genetic sense and the sources of knowledge in the methodological sense.

both kinds of empiricism: genetic empiricism assumes methodological empiricism and reversely.[8]

(Ad C) The expression "the main role" is too vague in order to be an effective criterion of delimiting the positions inside apriorism and aposteriorism. Thus, we need a more precise tool to making this criterion itself more precise. Consequently, we will able to make the distinction of aposteriorism and apriorism more accurate. As it is well known, Kant divided propositions into analytic and synthetic on the one hand, and, on the other hand, into a priori and posteriori.[9] If we cross both divisions, we obtain four categories: analytic a priori, analytic a posteriori, synthetic a priori, and synthetic a posteriori. Kant maintained that all analytic sentences are a priori. Consequently, he admitted three kinds of propositions as results of our cognitive activities, namely, analytic (logic), synthetic a priori (pure mathematics, theoretical physics), and synthetic a posteriori (for instance, statements about concrete historical events). Kazimierz Ajdukiewicz, offered the following characterization of apriorism and aposteriorism [Ajdukiewicz 1978, p. 174]:

– radical apriorism admits propositions a priori (analytic and synthetic a priori);

– moderate apriorism admits all kinds of propositions;

– radical aposteriorism admits propositions a posteriori (synthetic a posteriori);

– moderate aposteriorism admits analytic and synthetic a posteriori.[10]

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[8] Today, the main debate between nativism and genetic empiricism concerns linguistics. Noam Chomsky's view of grammar assumes that the linguistic competence displayed by grammar is just innate. Chomsky calls his conception of language and linguistics Cartesian in order to stress its affinity with nativism.

[9] See [Woleński, 2004] for the history of both distinctions.

[10] I do not discuss the criterion of analyticity. We can take as granted that a proposition *A* is an analytic if and only if its truth-value can be establish by taking into account the meaning of its constituents. Further, a proposition is a priori if its justification does not appeal to experience, otherwise, it is synthetic. Since my further considerations do not depend very much on a particular definition of what is analytic, synthetic, a priori and a posteriori, the above explanations are sufficient.

This picture works very well. Plato was a radical apriorist. He distinguished discursive and intuitive *episteme*. In the above terminology, the former is displayed by analytic propositions, but the latter – by the synthetic a priori. Kant was a moderate apriorist and legitimized all distinguished kinds of propositions. John Stuart Mill represented radical aposteriorism and, thereby, rejected all a priori items (analytic and synthetic a priori). Finally, most logical empiricists (and Hume as their ancestor) accepted moderate apriorism, that is, the view that logic and mathematics are analytic and a priori, but the rest of science (including the humanities and social sciences) consists of synthetic a posteriori. We see that the battle between apriorism and aposteriorism concerns synthetic a priori propositions, accepted by the former and rejected by the latter. This is, so to speak, the distinctive difference. The proposed characterization shows problems with both views. Radical aposteriorism has difficulties with explaining universality and certainty in the formal sciences moderate aposteriorism must reconcile the rise of logic and mathematics with experience, and apriorism in both its forms cannot avoid the question how the a priori is possible (in Kant's famous version: How synthetic a priori propositions are possible?) and has no other choice than to appeal to a form of nativism in order to answer this question. It confirms that genetic and methodological aspects of the sources of knowledge are deeply connected.

Irrationalism does not enter into the above picture of rationalism and empiricism. Of course, nobody denies that there exist irrationalities in our cognition and actions. However, both rationalists and empiricists either deny that it is knowledge in any legitimate sense, or introduce a special kind of knowledge (just knowledge in the sense of *episteme*), for instance based on mystical feeling or acts (Master Eckhart or Nicolaus of Cusa provide examples). Take so-called mysticism as an example of irrationalism. The mystic says that mystical experiences provide absolute certainty for their immediate contact with the trans-empirical reality, God, for example. Although the mystic considerably extends the scope of experience, most empiricists do not recognize this extension as legitimate. Correlatively, the rationalist says that mystical experience is not generated by reason and, in particular, its results cannot depend on that element, which exists as

innate in our mind. Thus, mystical cognition, whatever it is, cannot satisfy the epistemic standards of nativism. Since this kind of cognition it is not a priori valid, it cannot be the main criterion of *episteme* either. Finally, the aposteriorism does not agree that mystical experience conforms to the legitimate account of the a posteriori, for instance as represented by sense-perception. Although it is fairly possible to describe various differences between irrationalism and rationalism, as well as between the former and empiricism, this account is very limited and should be replaced by a more comprehensive treatment, because it seems that irrationalism operates on another level than rationalism and empiricism in the above account.

Ajdukiewicz offered the following characterization of anti-irrationalism (the third kind of rationalism) and irrationalism:

> Rationalism [anti-irrationalism – J. W.] values cognition whose paradigm is scientific or more precisely whose paradigms are the mathematical and natural sciences. It rejects cognition based on revelation, forebodings, prophecies, crystalgazing, etc. It is not easy, however, to say what distinguishes scientific cognition from cognition of those other facts. Scientific cognition can be characterized best by emphasizing two requirements which it must satisfy. Scientific cognition is first such and only such content of thought as can be communicated to others in words understood literally, that is, without metaphors, analogies and other half-measures for the transmission of thought. Secondly, only those assertions can pretend to the title of scientific cognition whose correctness or incorrectness can be decided in principle by anybody who finds himself in the appropriate external cognitions. In a word, scientific cognition is that which is intersubjectively communicable and controllable. [Ajdukiewicz 1973, pp. 45–46]

In fact, it is possible to simplify Ajdukiewicz's quoted characterization by saying that cognition (knowledge as justified *doxa*) is intersubjectively communicable if and only if it is intersubjectively controllable (verifiable, checkable, testable, etc). Note that communicability and controllability are understood as "in principle" realizable. This means that there is no requirement that any human being could communicate or control a given cognitive intersubjective result. The claim is rather that every person might learn how to manage communication or control, starting with commonly accepted resources. The ordinary language, although defective in many respects, plays the basic role in the cognitive anti-irrationalist business,

because special jargons, for example, scientific, are always extensions of the common parlance.

By contrast, irrationalism proposes knowledge as resulting from mental acts having contents, which lack intersubjectivity, although they are linguistically dressed. This is well confirmed by many concrete examples. Suppose that a mystic recommends as a piece of knowledge his or her mental content concerning trans-empirical reality and reporting a direct contact with God. One can ask "Well, but you are the only person experiencing your direct meeting of God". The mystic's expected answer is "OK, but you must have similar trans-empirical experiences in order to understand what is going on in my own case. Please try, because this experience is fairly possible". And if the second person will say "I am sorry, but I did not succeed", the mystic's reply probably would be "It is your fault. Try again". Similarly, assume that you meet a person *P* who believed that Friday is unlucky and thereby he or she abstains from going to university and trying to pass an exam. However, *P* had, according to the rules imposed by the Dean, to go to pass and succeeded. Will *P* abandon the prejudice about the unluckiness of Friday? Possibly yes, but he or she can also say that the success in question was a result of lucky circumstances, but adding Friday is principally unlucky. In both cases, we have the lack of intersubjectivity. *P* cannot describe the related prejudice in a intersubjetive manner and you cannot control them, even statistically. Similarly, the reports of mystical experience use a private language, which excludes controllability.[11]

Anti-irrationalism has its historical antecedents, but not in nativism or apriorism. I mentioned that *les philosophes* of the French Enlightenment belong to the tradition of empiricism. This is right but with additional comments. Diderot, D'Alembert, Condillac and other representatives of this movement were called rationalists themselves. In fact, they combined, perhaps not quite faithfully, Cartesian methodological insights, mostly claims that concepts should be *clarae et distinctae* with genetic empiri-

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[11] Note, however, that statements made by irrational persons can be understood by employing analogies, imagination, etc. On the other hand, the full communicatibility is excluded and the defenders of irrational view finally says "I know on my own".

cism. *The Great French Encyclopedia* became the most characteristic out-
come of this attitude. In fact, the Enlightenment was declared as the age of
Reason, but not in the sense of nativism and apriorism, but through con-
forming claims similar to Ajdukiewicz's description of anti-irrationalism.
Briefly, anti-irrationalism is empiricism supplemented by constraints in-
tended to capture a closer characterization of empirical knowledge by im-
posing the postulate of intersubjectivity on it. Several later philosophers
ascribed themselves to anti-irrationalism, including John Stuart Mill, Franz
Brentano, William James, Bertrand Russell, Ludwig Wittgenstein, the
Lvov-Warsaw School (Ajdukiewicz was its leading representative and he
used the label "logical anti-irrationalism" in Poland), the Vienna Circle,
Karl Popper or Willard van Orman Quine. These thinkers belong to empir-
icism. However, anti-irrationalism is also accepted by some rationalists in
the traditional sense. Kant probably would say "I am anti-rationalist", not
only because he shared ideas of the (German) Enlightenment. His Neo-
Kantian followers also rejected irrationalism. Edmund Husserl can serve as
another example. However, there is a question whether cognitive faculties
as seen by nativists and apriorists are consistent with the claims of anti-
irrationalism. This issue will be examined in what follows in this paper.

Before coming to considerations on the problem noted at the end of the
previous paragraph, I would like to add a couple of systematic remarks
about anti-irrationalism. This view proposes a special understanding of
being rational. We speak about rational beliefs and rational actions, not
only in science but also in ordinary life. The meaning of the adjective "ra-
tional" in these phrases is different than in contexts related to nativism and
apriorism. A belief or an action is rational if it is reasonable, justified, re-
sponsible, successful, sound, wise, accurate, clever, etc. I do not claim that
these predicates are synonyms, but only that they are close in meaning. In
fact, "justified" is principally used to qualify scientific statements, but, for
instance, "responsible" as referring to actions. Thus, the attribute expressed
by "rational" or its lack can be attributed to hypotheses, experiments,
modes of behaviour, for instance a diet, customs, legal prescriptions, moral
rules, military strategies, etc. This survey suggests that the word "rational"
actually functions as expressing a family concept in Wittgenstein's sense.

Consequently, they occur, at least in some cases, but not excluding that even in all, the core situations in which "rational" is attributed without doubts and the borderline cases in which application of this adjective can be problematic, that is, dependent on further circumstances. On the other hand, Ajdukiewicz says about anti-irrationalism of science as the paradigm and he seems to consider it a well-defined. I guess that this view should be tempered to some extent. Is religion rational or not? That's a good question. Many epistemologists consider religious faith as irrational by definition. But what about religion as an efficient addition to therapies? Some Christian theologians maintain that theology should be mystical, but others, for instance Neo-Thomists, try to do so-called rational theology and they offer various reasons (in the methodological sense) for the existence of God (*vide* the Five Ways of Thomas Aquinas having perfect syllogistic form; it does not mean that they are conclusive arguments). What about successful decisions based on prejudices? While prejudices are typically counted among irrationalities, the assessment of effective decisions based on them can be different.[12]

Probably nobody thinks that the criteria of rationality can be stated in a uncontroversial way.[13] In the last sentence a new word appeared, namely, "rationality". It is a convenient label. In particular, we can distinguish theoretical rationality, attributed to propositions as expressing beliefs, and practical rationality as referring to actions. However, the usefulness of the word "rationality" does not liquidate the problems listed on the occasion of the above remarks on the adjective "rational". Particularly, rationality is also a family concept, similarly like being rational. On the other hand, the former notion introduces a new quality into the considerations on anti-rationalism and irrationalism. First of all, this category was not used in the traditional discussions on rationalism as nativism *cum* apriorism (or apriorism *cum*

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[12] Perhaps we should speak about degrees of rationality. This perspective, although attractive to some extent, immediately leads to the question of measuring such degrees.

[13] One of the reasons for this consists in the evaluative character of "rational". Most people think that rational beliefs or rational actions are better than irrational ones. The evaluative import of "rational" seems to be inherent in its meaning. In spite of this, I will neglect this aspect of "rational".

nativism, if this succession is to be preferred). This circumstance suggests that we should distinguish two qualifiers, namely, "rational" and "rational-istic". While the latter applies to rationalism as nativism and/or apriorism, the former goes together with rationality. Another solution consists in con-sidering "rational" as equivocal and relying on contextual outcomes toward disambiguating what is going on in particular cases. I will adopt the second strategy (but at the end of the paper). The contemporary philosophical accounts of rationality are strongly influenced by the theory of decision-making.[14] Without entering into the criteria of rational decision-making, we can take as granted that they conform to Ajdukiewicz's characterization of anti-irrationalism (or, alternatively speaking, of rationality). Anyway, knowledge as justified *doxa*, that is, science in the contemporary under-standing, functions as a fundamental feature of rational decisions.[15] Deci-sions appealing to irrational sources, can be lucky, but not rational.

Game-theory and rationality

Game-theory offers another interesting suggestion for a philosophical analysis of rationality.[16] Assume that science is considered as a two-person game **G** (stable, for instance sum-zero, that is, a game in which the win-ning of one party results in the loss of the second party) in which partici-pate a Scientist (**S**) and Nature (**N**) as players. **S** intends to discover the laws of nature or facts, but **N** prevents achieving of this task.[17] **S** uses

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[14] See [Bermúdez, 2009] and [Binmore, 2009] for the point of view of decision theory and [Nozick, 1994] for a more epistemological perspective.

[15] This constraint applies also to the so-called decision under uncertainty. If the knowledge of a decision-maker is insufficient to make a choice relevant for a decision, some partial criteria can be employed, for instance, considering all the possible outcomes of the world as equally probable.

[16] I follow [Giedymin, 1960]. Note that Giedymin's task consisted in the elaboration of Karl Popper's idea of rationality.

[17] **N** is treated anthropomorphically, but this factor plays no essential role. That **N** pre-vents the tasks of **S** does not mean that Nature is malicious. Compare Einstein's famous saying that Nature is refined, not malicious.

a strategy, manifested by the scientific method; details of the counter-strategy of **N** can be neglected. If total skepticism is to be rejected, we can adopt a methodological optimism, even moderate, and say that **S** some-times wins and sometimes loses the **G**. More precisely, neither **S** nor **N** have a dictatorship strategy **s**, that is, such a strategy which always leads to winning, independently of the moves of the second player; of course, the same assumption holds for **N**. Any game which proceeds by a non-dictatorship strategy is proper. Note that a proper game does not require equal (or even approximately equal) chances of winning for both players. It is enough that each player can win or lose. In the case of **G**, this means that either **S** will succeed in discovering something about **N** or not. This second eventuality consists in **N**'s success. Speaking more epistemologically, the strategy **s** is fallible, that is, sometimes it fails. Clearly, this picture nicely displays Popper's view that scientific activity is not protected against er-rors and also can be extended to ordinary empirical knowledge.[18]

Although this picture is intended to capture the practice of empirical science, it can be extended to mathematics as well. Due to various limita-tive results, the axiomatic method and proof-schemata have their internal limitations, that is, they do not lead to all the required or expected results. For instance, the first Gödel incompleteness theorem saying that there exist true but not provable mathematical sentences, implies that no finite axiomatization of the arithmetic of natural numbers (Peano arithmetic) is available just because, due to the mentioned theorem, not all arithmetical truths are derivable from a finite set of axioms. The Church-Turing undecidability theorem excludes algorithmic solutions of an arbitrary mathematical problem.[19] Assume that **S** bets on the truth of accepted hy-potheses. By definition, a set **B** of bets related to a given game is coherent if and only if this game is proper. The Ramsey-DeFinetti theorem says that the set of bets is coherent if and only if **B** satisfies the axioms of theory

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[18] Note, however, that no concrete methodology is connected with the game-theoretical model of science. For instance, it is coherent with inductivism as well as anti-inductivism. See also remarks at the end of this paper.

[19] According to a popular interpretation, the non-algorithmic character of mathematics sanctions its creativity.

probability [Gillies 2000, p. 59–61]. Apparently, this result is at odds with considering mathematical theorems as certain and universal. However, this conclusion does not hold. The Ramsey-DeFinetti theorem does not preclude certainty, although it justifies the game-model of science. According to the probability theory, the attribute of certainty belongs to events with a probability equal to 1. The set **B** expresses epistemic preferences of **S**. He or she can bet on empirical hypotheses assuming the stability (certainty) of mathematics and logic, that is, presupposing that their theorems have a probability equal to 1. General fallibility does not exclude local certainty.

How to incorporate the principles of anti-irrationalism into **G**? Obviously **S** and **N** must communicate with each other. **S** states questions, **N** answers by the results of experiments, sometimes correctly, sometimes not or at least partially incorrectly. Thus, **G** proceeds under the assumption of the intersubjectivity of communication between both players. In particular, **S** can be replaced by **S'** without an essential change of results, although **S'** can be more gifted than **S** or reversely. Anyway, **S** must consider achieved results as uncertain, not by chance, but due to the very essence of scientific method. It does not guarantee the scientific success. The most important intuition concerning anti-irrationalism suggests that the rationality of science (and, more generally of knowledge) is inherently associated with fallibility. In more epistemological terms, the rationality of knowledge excludes the certainty (infallibility) of cognitive results, perhaps except for some local cases, for instance, ordinary statements.

If we accept the above model of rationality, its inconsistency with the classical concept of *episteme* can easily be seen. The reason is that such cognitive results have the stamp of absolute certainty (infallibility). The same must be said about the ideal of knowledge proposed by rationalism (apriorism plus nativism). This observation leads to the conclusion that rationalism is just irrationalism.[20] A closer historical analysis well confirms this conclusion. All great rationalists (or the majority of them) from Plato to Husserl accepted that intuition functions as the cognitive foundations of *episteme*. In other words, intuition is the eye of reason producing knowledge

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[20] See [Reichenbach, 1951, Chapter 3].

(just *episteme*) of the highest quality and providing the best device for discovering and exhibiting the innate content of the mind. The history of philosophy notes many such accounts of philosophical intuition.[21] Some philosophers (for instance, Plotinus, Bergson) strongly contrasted intuitive knowledge and discursive knowledge. They did not deny that irrationalism became their favorite view. Other thinkers, including the greatest rationalists, (like Plato, Descartes, Kant, Hegel or Husserl) understood intuitive knowledge as the intellectual insight into the essences of things.[22] However, they had serious problems with demonstrating that intuition in their understanding (by the way, different from one philosopher to another), which satisfies the requirement of intersubjectivity. Consider, for instance, the controversy in the phenomenological camp between Husserl and Ingarden concerning the existence of the world. Nobody has doubts that the issue is fundamental. Both philosophers employed the same method and appealed to the same or very similar initial intuitive data. Yet they arrived at essentially different conclusions and they declared them with absolute certainty.[23] Theoretically, either Husserl or Ingarden made an error, but without a clear intersubjectively accessible test of what mistake occurred and in which step of reasoning, any further discussion is pointless. And just such cases suggest that apriorism is a kind of irrationalism, perhaps not so explicit as that of Plotinus or Bergson, but still belonging to this family. Anyway, anti-irrationalism is just a different rationalism than that associated with *episteme*. We actually have two rationalisms and irrationalism. The main value of the game-theoretical model of knowledge consists in providing a good tool for the analysis of various forms of rationalism and irrationalism.

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[21] I omit intuition in the psychological sense. It is a normal mental faculty, which deals with empirical facts and can be mastered by training. I also omit intuition as direct empirical knowledge, because this understanding appeals to an old Latin usage.

[22] *Wesenschau* is an apt German label.

[23] Ironically, Husserl changed his views at least three times and always was convinced about his absolute correctness. I do not like to say that Husserl's philosophy is simply wrong, but only that it does not satisfy my own methodological rigour.

Final remarks

Let me list some further problems related to rationalism and irrationalism without entering into a more detailed analysis. Is there only one criterion of rationality? Is the borderline between anti-rationalism and irrationalism precise and stable? Is rationality absolute or relative? Is rationality in the humanities comparable with the rationality in the natural sciences? Is rationality a value? How to justify *doxa*? This last question deserves some attention. The game-theoretical model of knowledge recommends the concept of *doxa* as basic. However, this account leads to a serious problem, observed by Plato, who distinguished justified and unjustified opinion (see beginning of the present paper). Even without the game-theoretical model of knowledge, our empirical beliefs (I do not consider others) have incomplete justification only. Thereby, intersubjectivity constitutes merely one of the conditions of rationality, and justification must be taken as the second. Now, what is a justification of a belief sufficient for its acceptance as rational? Moreover, we accept some beliefs as certain. The observation that we do this for practical reasons or contextually, does not explain what is going on. Personally I am inclined to think that accepting some beliefs as certain initiated looking for *episteme*. Philosophers transformed this expectation into an epistemic dream.

It is interesting that Aristotle, a devoted empiricist, rejected Plato's apriorism, but kept his idea of *episteme.* It seems to me that empirical certainty has its basis in a kind of faithfulness, but in the sense of *pistis* or *fides*, but not generated by religion. Perhaps it is better to speak about Trustfulness toward empirical data than about faith. Such an act of trusting about data, fills up the gap between their incompleteness justifying epistemological doubts and a certainty of the acceptance of beliefs based on incomplete data. This observation well explains why the trust into data can be revised. On the other hand, apriorism has no chances to cope with this problem. The situation is similar as in the case of civil law and one of its foundations, namely, the principle of *bona fide.* Civil law assumes that *bona fide* occurs, but *malum fide* must be demonstrated. As far as the issue concerns empirical beliefs, the situation is more complicated in this case,

because we have no sufficient or even provisional criteria for the acceptance of such judgements. On the other hand, we make concrete epistemic decisions, because we have to do that. Incidentally, these remarks incline to question the Popperian model of science (knowledge). To falsity hypotheses does not manifest itself as a permanent methodological duty of the Knowing Subject, because nothing forces us into assuming *malum fide* on the part of the scientific or commonsense researchers of nature. Although many doubts concerning the criteria of empirical justification are grounded, epistemic *bona fide* is rational and can be such.

Finally, what is European rationalism in the face of two rationalisms and irrationalism? Without claiming which civilization is the best or better than the other, one should be very careful with diagnoses. In fact, our slogan about Europe can mean that it suggests that it is either rational or rationalistic. However, these two adjectives express different contents. Clearly, the European mind was rational and anti-irrational, though, of course, not always and very frequently with painful exceptions. It is also true that the greatest rationalistic philosophical systems were invented by European philosophers. On the other hand, the locution "*A* is rationalistic" does not imply "*A* is rational" and reversely. In fact, anti-irrationalism goes together with empiricism, but rationalism (centered on *episteme*) not.

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