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The Ethical Roots of Karl Popper's Epistemology

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I am very grateful to the organizers of the annual Thomistic Institute for having invited me to take part in this summer Institute¹. When I read in the invitation that I was supposed, so the letter runs, «to give a lecture on the area of Karl Popper and Aquinas», I realized that the task was not an easy one, even for a person like me who considers himself a Thomist and has worked for thirty years on the philosophy of Sir Karl Popper.

Indeed, it is difficult to find two authors as different as Aquinas and Popper. They differ widely in their religious beliefs, in their interests, in their methods and in their conclusions. Empirical science, which plays a central role in Popper's entire philosophy, was almost nonexistent in Aquinas' times.

Surely at least some of you know that there exists a book, published in 1993, which is centered precisely on Popper and Aquinas². Its author is Gabriel Zanotti, who teaches philosophy in the «Universidad Austral» in Buenos Aires. He knows quite well Popper and other authors in the area of contemporary epistemology. He

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² Gabriel Zanotti, *Karl Popper: Búsqueda con esperanza* (Buenos Aires: Editorial de Belgrano, 1993).

has also written two articles where he evaluates Popper's position: one of them was published in 1991³ and the other in 1996⁴. In his 1996 paper he even tries to approach Popper's position and mine. Zanotti represents a very specific position which deserves our attention. I will present first an outline of it and then I will present a different kind of approach which I think is relevant for Zanotti's claim.

I. Epistemology and Metaphysics

Zanotti holds that Popper is right in epistemology. He adds that Popper's epistemology requires some kind of foundation which can be provided by Aquinas' metaphysics, and he warns us that Popper's position only gives rise to philosophical difficulties if it is extrapolated from the specialized field of epistemology into a general philosophical outlook. Therefore, in order to evaluate Zanotti's position, we must first of all determine what Popper's epistemological position is. Here I do not attempt a systematic analysis either of Popper's or of Zanotti's views (years ago I published a systematic account of Popper's epistemology which includes critical remarks⁵). My aim is much more modest, as I will focus on Zanotti's general scheme first, and then I will present a particular interpretation of Popper's epistemology that can help us to foster the dialogue that Zanotti advocates.

According to the vast majority of authors, Zanotti included, Popper's central epistemological thesis can be labeled as "conjecturalism" as he concludes that all scientific knowledge is conjectural. Popper analyzes the value of the proofs used in empirical science and concludes that we can never provide a completely conclusive demonstration of any scientific statement. The main reason for this is a merely logical one, namely the asymmetry between verification and falsification: actually, if we use the hypothetico-deductive method, we know that purely logical reasons make it impossible to verify any statement however numerous the positive reasons in its favor may be, whilst a single contrary case would suffice to show that the statement is false. Therefore, we can never be certain about the truth of any scientific statement. Besides, from the point of view of methodology, Popper stresses that science will progress insofar as we propose bold conjectures which are audacious guesses and have a precise formulation. Indeed, the only road to progress would be to exploit our errors: even if we can never verify our hypotheses, if we are fortunate we can sometimes find out that they clash against the empirical evidence and, in that case, we can learn something and be able to propose new and better hypotheses.

Zanotti maintains that Aquinas' view provides good reasons why things would behave this way. He refers to the well-known passage where Aquinas says that we should not expect certainty when we formulate hypotheses to explain particular

³ Gabriel Zanotti, «Epistemología contemporánea y filosofía cristiana», *Sapientia*, 46 (1991), pp. 119-150.

⁴ Gabriel Zanotti, «El problema de la "Theory Ladenness" de los juicios singulares en la epistemología contemporánea», *Acta Philosophica*, 5 (1996), pp. 339-352.

⁵ Mariano Artigas, *Karl Popper: Búsqueda sin término* (Madrid: Magisterio Español, 1979).

physical effects. He also remarks that the more material an object is, the less transparent it will be for us, so that empirical science should be considered as a guesswork whose conclusions are always provisory. Zanotti also examines other aspects of Popper's thought, such as his strong defense of realism, of objective truth, of science as a search for truth, and of the specificity of the human person, and he tries to show that in all these points one can see Popper's epistemology as a complement of Aquinas' positions and, in the reverse sense, one can see Aquinas' metaphysics as providing a deeper foundation to Popper's epistemology.

I think that Zanotti's position is a solid one that is sustainable and I look at it with sympathy. Besides, as he says at the end of his 1996 paper that perhaps I agree with Popper more than could be supposed at first sight and he conjectures that if Popper and I would have had the opportunity to discuss quietly we would have reached common conclusions, I will accept Zanotti's challenge and am going to develop some points that can serve to foster that dialogue. Only, my argument will not follow the conventional line. I will not discuss the main epistemological points; rather, I will examine Popper's epistemology from the point of view of its ethical roots and I will try to show that this examination provides very important clues to evaluate Popper's position. The result will be an unusual interpretation of Popper's epistemology. However, it is based on solid reasons and it has also been discussed with people who had a close personal relationship with Karl Popper.

II. The Origins of Popper's Epistemology

Popper's philosophy is usually considered as an epistemology which, when applied to social and political problems, leads to the open society. But the whole matter can also be considered in the reverse sense, i. e. that Popper's ethics provides the clue to adequately understand and interpret his entire philosophy, including his epistemology. This has already been underlined by Hubert Kiesewetter, of the University of Eichstätt, who has written:

Since studying at the London School of Economics and Political Science in 1967-68 the question of the ethical roots or moral sources of Popper's philosophy has never ceased to occupy my mind (...) In recent years I extensively discussed with Sir Karl the issue of the ethical foundations of his philosophy (...) it is my intention to demonstrate that *all* his (Popper's) thinking is deeply rooted in ethics (...) Karl Popper's methodology of falsificationism or critical rationality had been formed in its nucleus long before he studied mathematics, physics and natural philosophy at Vienna University. Therefore, it is my hypothesis that Popper's method of trial and error (...) is inseparably interwoven with ethical or moral principles⁶.

⁶ Hubert Kiesewetter, «Ethical Foundations of Popper's Philosophy», in: A. O'Hear (editor), *Karl Popper: Philosophy and Problems*, Royal Institute of Philosophy Supplement: 39 (Cambridge: Cambridge University Press, 1995), pp. 275-276.

Popper's philosophy becomes crystal clear when we look at it through ethical glasses. We can then realize that falsificationism is rooted in an ethical soil. Indeed, Popper's main concern when working on epistemological problems was to show that we should adopt a rational or humanist attitude which necessarily includes the recognition of the limits of our knowledge and the need of using the «trial and error elimination» method. Then, we can also understand why Popper's falsificationism and fallibilism and rationalism are mainly attitudes, not doctrines; otherwise, we could become prisoners of unending discussions about naive or sophisticated or methodological falsificationism, or even worse, we could think that Popper's claims only represent some minor footnotes to the epistemological discussions of his time. Even the notion of the open society cannot be adequately understood unless we include in it serious ethical elements which should not be reduced to some kind of social organization.

Surely, logical reasons occupy an important place in Popper's epistemology. However, when Popper speaks about criticism, critical rationalism or fallibilism he often refers to a more complex issue which involves personal attitudes, as he refers, for instance, to «intellectual honesty», «self-criticism» and «intellectual modesty», and he speaks of admitting «our mistakes, our fallibility, our ignorance», which clearly implies an ethical attitude⁷.

We can clarify some aspects of Popper's epistemology by analyzing its origins, which refer to several events that happened in 1919. Of course, I do not intend to deny the existence of other factors that influenced Popper's epistemology in its origins. I only desire to stress that the existence of ethical components in Popper's epistemology is corroborated by his 1919 experiences with Marxism, psychoanalysis and relativity. I will closely follow and extensively quote Popper's texts because I think this necessary if we are to realize the role that ethical factors play in Popper's epistemology.

1. The 1919 experiences

The main account of these experiences is contained in Popper's autobiography, section 8, entitled «A Crucial Year: Marxism; Science and Pseudoscience»⁸. The account is clear and is presented as a most relevant clue for understanding Popper's entire life; it occupies an entire section and its title refers to «a crucial year».

Yet, the reader may feel surprised by the magnitude of the consequences extracted by Popper. The events are written in the autobiography in such a way that Popper seems to be close enough to be impressed by them but, at the same time, too distant to be as strongly impressed as he tells us he was. Indeed, the consequences of these events are impressive, as Popper himself writes:

⁷ Karl Popper, *In Search of a Better World. Lectures and Essays from Thirty Years* (London-New York: Routledge, 1992), p. 190.

⁸ Karl Popper, *Autobiography of Karl Popper*, in: Paul Arthur Schilpp (editor), *The Philosophy of Karl Popper* (La Salle, Illinois: Open Court, 1974), vol. I, pp. 23-29.

The encounter with Marxism was one of the main events in my intellectual development. It taught me a number of lessons which I have never forgotten. It taught me the wisdom of the Socratic saying, “I know that I do not know”. It made me a fallibilist, and impressed on me the value of intellectual modesty. And it made me most conscious of the differences between dogmatic and critical thinking⁹.

Then, what about the logical aspects, such as the asymmetry between verification and falsification, and the difficulties of induction? Are these aspects to be considered as secondary, given that fallibilism and criticism were already a consequence of Popper’s experience of Marxism?

One can hardly overestimate the relevance of these logical problems in Popper’s philosophy. They occupy a first-rate place. However, they have an ethical basis in two respects: on the one hand, they arise as a consequence of ethical experiences, and on the other hand, their meaning is part of wider and deeper problems which involve the ethical responsibility of the entire human person.

Actually, although the account contained in his autobiography is very clear, Popper provided in his last years three other occasional accounts that are important for this subject, because they include details which are most helpful to understand the meaning and consequences of his Marxist experiences. They are contained in a lecture delivered in Eichstätt on 27 May 1991 in the occasion of his honoris causa doctorate in that University¹⁰, in another lecture delivered in the Universal Exhibition at Seville on 6 March 1992¹¹, and in an interview with an Italian journalist published in 1992¹².

Now I will try to provide a description of the facts and their consequences, underlining the aspects that refer to the ethical dimensions and to their impact on other aspects of Popper’s philosophy. I will comment on the circumstances that prepared Popper’s approach to Marxism, the participation in Marxist activities including the demonstration which constitutes the kernel of the entire issue, and the consequences of his 1919 experiences.

⁹ *Ibid.*, pp. 27-28.

¹⁰ This lecture is entitled «Gegen den Zynismus in der Interpretation der Geschichte», and is contained in: Karl Popper, *Alles Leben ist Problemlösen. Über Erkenntnis, Geschichte und Politik* (München: Piper, 1994), chapter 13, pp. 265-281. Some interesting data and comments can be found in the corresponding Laudatio by Hubert Kiesewetter: «Karl Popper -ein Jünger von Sokrates», included in: Eichstätter Materialien, Band 14. Abteilung Philosophie und Theologie, 6 (Regensburg: Verlag Friedrich Pustet, 1992), pp. 12-24.

¹¹ This lecture was published originally in a German version: «Gedanken über den Kollaps des Kommunismus: Ein Versuch, die Vergangenheit zu verstehen, um die Zukunft zu gestalten»: Karl Popper, *Alles Leben ist Problemlösen*, chapter 15, pp. 297-318.

¹² Published originally in Italian with the title *La lezione di questo secolo*. The relevant pages for our issue are: «La lezione di questo secolo», Interview with Giancarlo Bosetti, in: Giancarlo Bosetti (editor), *La lezione di questo secolo* (Venezia: Marsilio, 1992), pp. 3-11. There is now an English version: *The Lesson of this Century. With two Talks on Freedom and the Democratic State*, Karl Popper interviewed by Giancarlo Bosetti (London and New York: Routledge, 1997).

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2. The circumstances

Shortly after the end of the First World War, Popper left school and began to study in the University, at a moment where social problems were abundant. He writes:

The breakdown of the Austrian Empire and the aftermath of the First World War, the famine, the hunger riots in Vienna, and the runaway inflation, have often been described. They destroyed the world in which I had grown up; and there began a period of cold and hot civil war (...) I was a little over sixteen when the war ended, and the revolution incited me to stage my own private revolution. I decided to leave school, late in 1918, to study on my own. I enrolled at the University of Vienna where I was, at first, a non-matriculated student, since I did not take the entrance examination (“*Matura*”) until 1922 (...) It was a time of upheavals, though not only political ones. I was close enough to hear the bullets whistle when, on the occasion of the Declaration of the Austrian Republic, soldiers started shooting at the members of the Provisional Government assembled at the top of the steps leading to the Parliament building (...) There was little to eat; and as for clothing, most of us could afford only discarded army uniforms, adapted for civilian use. Few of us thought seriously of careers (...) ¹³.

Besides the social difficulties that helped Popper’s rapprochement to Marxism, it is interesting to note that he had already at that time some experience of shooting and bullets. He writes that Austrian society was then obviously unpleasant, as it was marked by famine, poverty, unemployment, inflation, and people who profited from all this by speculation ¹⁴.

In those circumstances, Popper joined a socialist association and, in the spring of 1919 (March or April), he even became a communist, attracted mainly by the apparent pacifism of the communists. In his autobiography he writes:

I became a member of the association of socialist pupils of secondary schools (*sozialistische Mittelschüler*) and went to their meetings. I went also to the meetings of the socialist university students. The speakers at these meetings belonged sometimes to the social democratic and sometimes to the communist parties. Their Marxist beliefs were then very similar. And they all dwelt, rightly, on the horrors of war. The communist claimed that they had proved their pacifism by ending the war, at Brest-Litovsk. Peace, they said, was what they primarily stood for (...) For a time I was suspicious of the communists, mainly because of what my friend Arndt had told me about them. But in the spring of 1919 I, together with a few friends, became convinced by their propaganda. For about two or three months I regarded myself as a communist. I was soon to be disenchanted ¹⁵.

¹³ Karl Popper, *Autobiography of Karl Popper*, p. 24.

¹⁴ Karl Popper, *Alles Leben ist Problemlösen*, pp. 308-309.

¹⁵ Karl Popper, *Autobiography of Karl Popper*, pp. 24-25.

Popper recalls several times that he was impressed by the pacifist propaganda displayed by the communists with the occasion of the treaty of Brest-Litovsk. After the Russian revolution on February 1917, the nationalities of the former Tsarist Empire searched for their independence, and the German army occupied Latvia, Belorussia and Ukraine. After the soviet revolution on October, Lenin decided on the end of the war at the East front. On 15 December 1917, Lenin's Russia and the Central Powers signed an armistice at Brest-Litovsk. After new episodes of war conducted by the German army, by the Brest-Litovsk treaty on 3 March 1918 the new communist Russia recognized the independence of Finland and Ukraine; renounced the control over Estonia, Latvia, Lithuania, Poland and a great part of Belorussia; and ceded three other territories to Turkey. This treatise meant the victory of Germany over Russia, but, at the same time, Lenin remained free to work on his revolution in Russia. Lenin presented the new communist Russia as fully involved in peace, even at the expense of losing political power.

As he himself tells us, the young Popper was strongly impressed by the attitude of the Bolsheviks. He had a Russian-born friend who told him about their fanaticism and capacity for lying, but, in spite of this, approximately in April 1919 (he was not yet 17) he decided to try the communist party¹⁶. This means (and here begin the interesting details revealed by the old Popper) that he went to the headquarters of the Austrian communist party and offered his services as a boy for everything. He remembered many years later that among the communist leaders there were Gerhardt Eisler, his brother Hans and their sister Elfride, whose father was the Austrian philosopher Rudolph Eisler, and he also remembered their future situation (for instance, Gerhard was the leader of the American communist party and was expelled from the United States after the Second World War). These people fascinated him and he trusted them¹⁷. This should be remembered, because this implied relying on a scientific theory that turned out to be really pseudo-scientific, and this partly may help to understand why Popper was so diffident afterwards about claims of reliability in science.

It is also interesting to know, from Popper's own words, that the communist leaders welcomed his arrival, and entrusted him with various services; besides, he was often present in their meetings (which was unusual), so that he could know very well their way of thinking¹⁸. Therefore, although he was too young to become a member of the party, he was really committed to it. Thus, we have already passed from the previous circumstances to his real involvement with Marxism.

3. The crisis

That he was really involved with Marxism and communism can be shown again

¹⁶ Giancarlo Bosetti (editor), *La lezione di questo secolo*, p. 6; Karl Popper, *Alles Leben ist Problemlösen*, p. 304.

¹⁷ Giancarlo Bosetti (editor), *La lezione di questo secolo*, pp. 6-7; Karl Popper, *Alles Leben ist Problemlösen*, p. 304.

¹⁸ Karl Popper, *Alles Leben ist Problemlösen*, p. 304.

by his own words, and this is most important to understand the whole affair. He says that, in the meantime (in the days when he contacted the communist leaders), he had initiated himself in Marxist theory¹⁹. Then, when he already participated in the activities of the communists, he had several opportunities of experiencing distaste regarding their actions. Actually, he remembers that, although he was obviously dissatisfied with the society of its times, he was uneasy because the party obviously promoted a kind of murderous instinct against class-enemies: he was told, however, that this was necessary and that, in any case, it was not meant too seriously; also that in a revolution only victory can serve; and finally that under capitalism there are every day more victims than in the entire revolution. Popper notes that he agreed reluctantly, with the feeling that he had to pay a high price regarding his morality. Something similar happened regarding lies, as the leaders sometimes said one day white and the following day black; this would happen whenever they received a telegram from Moscow with the corresponding indications. When Popper protested, he was told that those contradictions were necessary and should not be criticized, as the unity of the party was essential for the triumph of revolution: although it was possible to commit mistakes, it was not allowed to criticize them openly, because only the discipline of the party could carry a fast victory. Popper remembers again that, although he reluctantly accepted this, he felt that he was sacrificing his personal integrity to the party, and that, when he realized that the leaders were disposed to contradict themselves at any moment, his attitude towards communism suffered a crisis²⁰.

We arrive then at the center of the crisis. In his autobiography, Popper describes the experience this way:

The incident that first turned me against communism, and that soon led me away from Marxism altogether, was one of the most important incidents in my life. It happened shortly before my seventeenth birthday. In Vienna, shooting broke out during a demonstration by unarmed young socialists who, instigated by the communists, tried to help some communists to escape who were under arrest in the central police station in Vienna. Several young socialist and communist workers were killed. I was horrified and shocked at the police, but also at myself. For I felt that as a Marxist I bore part of the responsibility for the tragedy—at least in principle. Marxist theory demands that the class struggle be intensified, in order to speed up the coming of socialism. Its thesis is that although the revolution may claim some victims, capitalism is claiming more victims than the whole socialist revolution²¹.

The incident happened, Popper says, «shortly before my seventeenth birthday», which was 28 July 1919; in another place, he speaks of some day in June 1919²²,

¹⁹ *Ibid.*

²⁰ Karl Popper, *Alles Leben ist Problemlösen*, pp. 308-309; Giancarlo Bosetti (editor), *La lezione di questo secolo*, p. 7.

²¹ Karl Popper, *Autobiography of Karl Popper*, p. 25.

²² Karl Popper, *Alles Leben ist Problemlösen*, p. 309.

and he also adds that in July 1919, before his seventeenth birthday, he decided to revise his attitude towards Marxism²³. A precise date is provided only by other people, namely Hubert Kiesewetter²⁴ and Franz Kreuzer²⁵, but Kiesewetter only quotes Kreuzer's account. According to Kreuzer, the date is 15 June 1919. Kreuzer adds that the demonstration happened in Hörlgasse in Vienna's 9th district, and that there were 20 people dead and 70 seriously injured. This contrasts with Popper's accounts, where he speaks of several and, when he is more specific, he speaks in one occasion of six²⁶, in another of approximately eight people dead²⁷. That he was in the demonstration is asserted by Popper himself²⁸.

Two details seem important in this context. The first is that the people dead, at least some of them, were young workers: Popper thought that other people who, like himself, were students or intellectuals, had special responsibility for those workers, who relied on the intellectuals²⁹. The other is that, as he said many years later, he had approved of the demonstration because it was supported by the communist party; he perhaps had even encouraged the participation of other people; and perhaps some of them were among the dead³⁰.

He was also upset by the attitude of the communist leaders. He asked himself whether he had discussed seriously and critically the Marxist theory which served as the basis for the sacrifice of human lives, and he recognized that he had not done it. However, when he arrived at the headquarters of the communist party, he realized that the leaders had an entirely different attitude: revolution made unavoidable the existence of such a type of victims, and furthermore this meant a kind of progress because workers would become every time more angry against the police and so they would become more and more aware of their real class-enemies. Popper's reaction was clear: he never returned there, and this way, as he commented later, he escaped the Marxist trap³¹.

If we join all the details, we have a picture that coincides with the account provided in Popper's autobiography, but adds lively colors and helps to understand Popper's reaction. He felt responsible for what happened: not only because, as a Marxist, he shared in some way the responsibility, but also because he participated in the preparation of the demonstration. Of course, he did not think about the possibili-

²³ Karl Popper, *Alles Leben ist Problemlösen*, p. 303; Giancarlo Bosetti (editor), *La lezione di questo secolo*, p. 3.

²⁴ Hubert Kiesewetter, «Karl Popper -ein Jünger von Sokrates», p. 17.

²⁵ Franz Kreuzer, «Vorwort», in: Karl Popper, *Die Zukunft ist offen* (mit Konrad Lorenz), Das Altenberger Gespräch, mit den Texten des Wiener Popper-Symposiums, herausgegeben von Franz Kreuzer, 4 Auflage (München: Piper, 1990), p. 7.

²⁶ Giancarlo Bosetti (editor), *La lezione di questo secolo*, p. 10.

²⁷ Karl Popper, *Alles Leben ist Problemlösen*, p. 309.

²⁸ Giancarlo Bosetti (editor), *La lezione di questo secolo*, p. 10; Karl Popper, *Alles Leben ist Problemlösen*, p. 309.

²⁹ Karl Popper, *Autobiography of Karl Popper*, p. 25; Giancarlo Bosetti (editor), *La lezione di questo secolo*, pp. 10-11.

³⁰ Karl Popper, *Alles Leben ist Problemlösen*, pp. 309-310.

³¹ *Ibid.*, p. 310.

ty of killing or anything similar, but he felt nevertheless that he «bore part of the responsibility for the tragedy—at least in principle». His very strong reaction becomes understandable only if we take this into consideration. Popper was always a seriously ethical person and he contacted the communist party because of his sense of responsibility for social affairs and also because he was a pacifist and felt attracted by the apparent pacifism of the communists; and this is why, when he realized that his ethical standards widely differed from those of his communist friends and that he had been involved in some way in the death of the young workers, he suffered a big shock. The consequences affected the status of a theory which presented itself as scientific, and the reliability of scientific theories in general.

4. The consequences

The immediate consequence was that Popper became aware of a «moral trap» from which he was able to escape. He referred several times to this in his late writings³², and he described it in his autobiography this way:

I was shocked to have to admit to myself that not only had I accepted a complex theory somewhat uncritically, but I had also actually noticed quite a bit that was wrong, in the theory as well as in the practice of communism, but had repressed this—partly out of loyalty to “the cause”, and partly because there is a mechanism of getting oneself more and more deeply involved: once one has sacrificed one’s intellectual conscience over a minor point one does not wish to give up too easily; one wishes to justify the self-sacrifice by convincing oneself of the fundamental goodness of the cause, which is seen to outweigh any little moral or intellectual compromise that may be required. With every such moral or intellectual sacrifice one gets more deeply involved. One becomes ready to back one’s moral or intellectual investments in the cause with further investments. It is like being eager to throw good money after bad. I also saw how this mechanism had been working in my case, and I was horrified³³.

That ethical reasons played a very important role first in the acceptance of communism and afterwards in its rejection is clearly stated by Popper when he says, in his Seville lecture in 1992, that he was nearly caught in the Marxist ideological trap because he had deep moral reasons to do what seemed to be his moral duty, and that afterwards he experienced a big moral commotion which led him to a deep moral aversion³⁴.

If we forget those ethical reasons or if we attribute to them only a minor relevance, then Popper will appear as a kind of child prodigy who, at a very early age, was preoccupied by the problems related with the scientific character of theories, and who happily compared the different status that possess in this respect Marxism

³² *Ibid.*, pp. 268-270 and 304-310.

³³ Karl Popper, *Autobiography of Karl Popper*, p. 25.

³⁴ Karl Popper, *Alles Leben ist Problemlösen*, p. 305.

and psychoanalysis on the one hand, and Einstein's relativity on the other. Sure, he would have been helped by his experiences in the three ambits, according to his own testimony. However, some important things do not fit in this scheme. It would be hardly intelligible, for instance, why Popper says that the Marxist experience made of him a fallibilist and most conscious of the difference between dogmatic and critical thinking; and it would be even more difficult to assimilate the assertion that follows immediately afterwards in which, referring to his encounter with Marxism, he says:

Compared with this encounter, the somewhat similar pattern of my encounters with Alfred Adler's "individual psychology" and with Freudian psychoanalysis—which were more or less contemporaneous (it all happened in 1919)—were of minor importance³⁵.

In the same part of his autobiography, Popper attributes a great importance to his encounter with Einstein, also in 1919. That Popper was a young man filled with intellectual and social problems is a fact, as it is the circumstance that his 1919 experiences represent a unique coincidence which fits rather well with those problems. This is why he writes: «Looking back at that year I am amazed that so much can happen to one's intellectual development in so short a spell. For at the same time I learned about Einstein; and this become a dominant influence on my thinking—in the long run perhaps the most important influence of all», and he adds:

But what impressed me most was Einstein's own clear statement that he would regard his theory as untenable if it should fail in certain tests (...) Here was an attitude utterly different from the dogmatic attitude of Marx, Freud, Adler, and even more so that of their followers (...) This, I felt, was the true scientific attitude (...) Thus I arrived, by the end of 1919, at the conclusion that the scientific attitude was the critical attitude, which did not look for verifications but for crucial tests which could *refute* the theory tested, though they could never establish it³⁶.

All this fits well with the relevance of the Marxist experience and of its ethical components. It is interesting to note that, in both cases, Popper refers mainly to attitudes, and that when he explains his anti-Marxist reaction he says:

I realized the dogmatic character of the creed, and its incredible intellectual arrogance. It was a terrible thing to arrogate to oneself a kind of knowledge which made it a duty to risk the lives of other people for an uncritically accepted dogma, or for a dream which might turn out not to be realizable. It was particu-

³⁵ Karl Popper, *Autobiography of Karl Popper*, p. 28. Obviously, this experience was very different from the Marxist one, but both shared, in Popper's account, the verificationist attitude that closes its eyes when contrary data are found and nevertheless continues to pretend a scientific character.

³⁶ Karl Popper, *Autobiography of Karl Popper*, pp. 28-29.

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larly bad for an intellectual, for one who could read and think. It was awfully depressing to have fallen into such a trap³⁷.

It seems rather obvious that the main problem here was an irresponsible attitude related to important ethical consequences. This sufficed to make of Popper a fallibilist, strongly suspicious of pseudo-scientific creeds: the Marxist pseudo-scientific prediction of a necessary course of history was very dangerous, and the first condition that Popper would require in the future to any allegedly scientific theory was that it should be held with an attitude of intellectual modesty, namely an attitude that recognizes the magnitude of our ignorance and never forgets that our theories are always tentative and partial trials to progress. Scientific certainty had showed itself deceptive and should be replaced by an attitude of learning through our unavoidable mistakes. Now, mistakes would begin to be considered not as an evil, but as the way which prepares real progress.

In the last analysis, the origin of Popper's fallibilism depends, in a great extent, on the feeling of personal responsibility. Some people had relied on him (on communism through him), and he had uncritically contributed to their misfortune. He had lacked a critical attitude towards a doctrine that, when carefully analyzed, turned out to be a pseudo-scientific moral trap. All this explains also why Popper, during his entire life, stressed strongly the moral responsibility of intellectuals. He saw many human troubles as caused by chains of people who rely on one or several intellectuals, and saw that these chains too often are moral chains. Fallibilism appeared, above all, as an ethical duty.

III. The Meaning and Scope of Fallibilism

The preceding analysis provides us with a perspective which will be most helpful in order to realize what the meaning and scope of Popper's main epistemological tenets about the conjectural character of scientific knowledge are, which are usually labeled as "fallibilism". I will consider now the relationship of fallibilism with conjecturalism, which is a germane concept, and with skepticism, which may seem its consequence. Afterwards, I will return to the double key of fallibilism, the logical and the ethical, and I will examine the meaning of critical rationalism as a label that is often used to characterize Popper's epistemology.

5. Fallibilism and conjecturalism

One of the main contentions of Popper is that the quest for certainty is mistaken. We should not forget, however, that Popper's assertions in this line always suppose a point of departure that, trivial as it may seem, has far reaching consequences; actually, Popper supposes that we try to test our theories by using empirical statements:

³⁷ *Ibid.*, p. 26.

then, mere logical arguments show that there is not a single universal theory or law that may be proved this way. So far, and even if we admit that this has far-reaching consequences in the ambits of epistemology and of science as well, this kind of conjecturalism does not preclude our attaining some kind of certainty which can be sufficient for many purposes, even in science.

When considered as a methodological caveat, conjecturalism is a most healthy approach and it can prevent many shortcomings. Of course, it relies on a logical basis, but it refers mainly to a methodological attitude. Moreover, although it can be extended to include any kind of knowledge, it refers primarily to scientific theories which, actually, depend on our theoretical constructions which, in their turn, also depend on the concrete possibilities, conceptual and empirical, that we can use in every epoch and circumstances.

All this amounts to recognizing that scientific knowledge is always perfectible, that we should never consider our theories as definitively established, that we can always discover some error in them and even should look for errors if we desire to progress towards better theories. If this is what is meant by fallibilism, all of us should be fallibilists.

Actually, on one of the occasions in which Popper tries to clarify the entire issue, he argues in a way that will be useful to quote and to analyze. He denies the existence of a general criterion of truth, and he explains what this means:

It merely means, quite simply, that we can always err in our choice—that we can always miss the truth, or fall short of the truth; that certainty is not for us (or even knowledge that is highly probable, as I have shown in various places, for example in chapter 10 of *Conjectures and Refutations*); that we are fallible. This, for all we know, is no more than the plain truth. There are few fields of human endeavour, if any, which seem to be exempt from human fallibility. What we once thought to be well-established, or even certain, may later turn out to be not quite correct (but this means false), and in need of correction³⁸.

In the preceding quotation, Popper denies first the existence of a general criterion of truth; I would agree because, even if we can provide arguments which can be used as some kind of criteria, there is not one single general criterion which could be applied automatically to ensure the truth of any statement or theory. Then, Popper asserts that «we can always err», which is true. Then he adds that «certainty is not for us»: in my opinion, this is a difficult point that should be carefully analyzed, and it depends on our ideas about certitude.

Indeed, if we use a strong idea of certainty, which means to identify certainty with the state reached when we can provide a fully logical proof that leaves no room for the smallest contrary possibilities, then it is easy to agree that we cannot reach such a state. In this context, we should remember that even the most elementary factual truths, which constitute our usual basic certainties, cannot be proved by means

³⁸ Karl Popper, *The Open Society and Its Enemies*, reprinted from the 5th revised edition (London: Routledge, 1977), vol. 2, p. 374.

of logic alone. By using logical arguments alone, we cannot reach either certainty or subjective probability, which are subjective states; therefore, Popper is right. However, it could be argued that this idea of certainty is too strong and that we can distinguish different kinds of certainty (remember, for instance, the classical distinctions between metaphysical, physical and moral certitude); and also that certainty, and its different degrees, includes logical argument but also some kind of subtleties which cannot be reduced to logic alone.

I think that Popper could agree with such arguments, and I have two reasons for this. The first and more important is that his defense of fallibilism is meant to avoid dogmatic positions that forget rigor, self-criticism and honesty, but is not opposed to any attitude which would include these values. Actually, Popper did not change his mind easily on the important issues: he assumed a philosophical position which he developed throughout his entire life, and he argued for his views in a forceful and elegant way, as a man with deep convictions. He had a strong sense of intellectual honesty and this is why he was aware of the difficulties involved in the quest for certainty. Besides, we should not forget that in theoretical physics, which is the main ambit of his philosophical reflections, Popper is completely right, without qualification, when he insists that our theories always include aspects which can change and that no theory should claim to have been definitively established.

My second argument includes personal references. I published my first book in 1979; it was an attempt to summarize in an orderly way Popper's epistemological position. I sent it to him and, on this occasion, I also sent to him a letter in which I said that I shared many of his views but also that I had difficulties with his conjecturalism. I wrote these words: «I think furthermore that many scientific statements are true and we can be sure of their truth, although sometimes they are partial and can be improved. I think I understand your banishing all certitude, but I don't share it». He kindly sent to me a dedicated copy of *The Poverty of Historicism* and a handwritten letter, in which he answered my question. Some years later, I wanted to use that text as an illustration for an article published in the Spanish edition of *Scientific American*, and I asked for the corresponding permission; Mrs. Melitta Mew answered in the name of Sir Karl granting the permission for the text: in the end, I did not use that illustration. Popper's text was this: «I also think that many scientific statements are true. I also think that we can be pretty sure of the truth of some of them. But no theory was better tested than Newton's—and we certainly cannot be sure of it; Einstein has shown that it is possible that Newton's theory may be false»³⁹.

In my opinion, this unusual statement in which Popper says that we can be *pretty sure* about the truth of some scientific statements, shows that he could accept qualifications about certainty (such as 'pretty'), and also that his conjecturalism mainly

³⁹My text corresponds to a letter dated June 6, 1980. Popper's handwritten answer to that letter is not dated; the postmark on the envelope is dated June 16, 1980. The last letter, written by Mrs Melitta Mew at the request of Professor Sir Karl Popper, is dated November 4, 1986. Popper's handwritten letter can be found in the Popper's Archives, Hoover Institution, box 270, folder 12.

refers to scientific statements and theories which can be substituted by better ones⁴⁰. I mean, for instance, that it would not be reasonable to doubt the existence of electrons in the sense that there exists something real which corresponds in some way to the well known properties of electrons, although we know that, in spite of the great progress in this field, we know little about it and therefore we should continue our search for better theories.

I would say that conjecturalism makes sense if we interpret it as the possibility of always reaching a better knowledge and as the attitude of searching for it. This is closely related with being aware of the limits of our knowledge and, therefore, with an open-mindedness which favors toleration and respect. And it is easy to discover the unmistakable ethical flavor of this attitude.

6. Fallibilism and skepticism

Popper's fallibilism should not be interpreted in a relativist way. He is very clear about this and argues strongly for objective truth and for progress in scientific inquiry:

If we thus admit that there is no authority beyond the reach of criticism to be found within the whole province of our knowledge, however far we may have penetrated into the unknown, then we can retain, without risk of dogmatism, the idea that truth itself is beyond all human authority. Indeed, we are not only able to retain this idea, we must retain it. For without it there can be no objective standards of scientific inquiry, no criticism of our conjectured solutions, no groping for the unknown, and no quest for knowledge⁴¹.

Fallibilism is presented by Popper as opposed to skepticism. Popper is aware of the dangers of relativism, and in this line he refers to «a great problem»: «How can we admit that our knowledge is a human—and all too human—affair, without at the same time implying that it is all individual whim and arbitrariness?» His answer is unequivocal:

The solution lies in the realization that all of us may and often do err, singly and collectively, but that this very idea of error and human fallibility involves another one—the idea of *objective truth*: the standard which we may fall short of. Thus the doctrine of fallibility should not be regarded as part of a pessimistic epistemology⁴².

According to Popper, the very existence of science, its progress, and our ability to

⁴⁰It also shows that Popper was extremely careful about the most important issue of the falsification of the Newtonian theory, which doubtless would be a first-rate example of falsification.

⁴¹Karl Popper, *In Search of a Better World*, pp. 50-51.

⁴²Karl Popper, *Conjectures and Refutations. The Growth of Scientific Knowledge*, 5th edition (London: Routledge, 1974), p. 16.

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use arguments, presuppose objective truth and objective standards of criticism. Besides, when he explains this, he introduces further qualifications of fallibilism:

By 'fallibilism' I mean here the view, or the acceptance of the fact, that we may err, and that the quest for certainty (or even the quest for high probability) is a mistaken quest. But this does not imply that the quest for truth is mistaken. On the contrary, the idea of error implies that of truth as the standard of which we may fall short. It implies that, though we may seek for truth, and though we may even find truth (as I believe we do in very many cases), we can never be quite certain that we have found it. There is always a possibility of error⁴³.

I would comment that it is not necessary to share Popper's ideas about certainty in order to see that he does not advocate any kind of relativism, and this is my main point here. Popper clearly asserts that

Fallibilism need in no way give rise to any skeptical or relativist conclusions (...)
Every discovery of a mistake constitutes a real advance in our knowledge (...)
Criticism, it seems, is the only way we have of detecting our mistakes, and of learning from them in a systematic way⁴⁴.

Fallibilism is mainly an attitude, namely «the acceptance of the fact that we may err»; this attitude is connected with logical arguments (for instance, the impossibility of verifying a universal statement by means of particular tests): but it has nothing to do with relativism. Indeed, Popper strongly opposes to relativism as a kind of irrationalism, as he says that

One of the more disturbing aspects of the intellectual life of our time is the way in which irrationalism is so widely advocated, and the way in which irrationalist doctrines are taken for granted. One of the components of modern irrationalism is relativism (the doctrine that truth is relative to our intellectual background, which is supposed to determine somehow the framework within which we are able to think: that truth may change from one framework to another)⁴⁵.

7. The reasons for fallibilism

What are then, in the last analysis, the reasons for fallibilism?

Popper's arguments for fallibilism derive from the conjectural character of our knowledge and the amount of our ignorance. However, Popper combines these arguments with ethical considerations. For instance, he says: «The principles that form the basis of every rational discussion, that is, of every discussion undertaken in the

⁴³ Karl Popper, *The Open Society and Its Enemies*, vol. 2, p. 375.

⁴⁴ *Ibid.*, pp. 375-376.

⁴⁵ Karl Popper, *The Myth of the Framework. In Defence of Science and Rationality*, edited by Mark A. Notturmo (London: Routledge, 1994), p. 33.

search for truth, are in the main *ethical* principles», and he formulates three of them this way:

1. The principle of fallibility: perhaps I am wrong and perhaps you are right. But we could easily both be wrong.
2. The principle of rational discussion: we want to try, as impersonally as possible, to weight up our reasons for and against a theory (...)
3. The principle of approximation to the truth: we can nearly always come closer to the truth in a discussion which avoids personal attacks (...).

That these principles include ethical components is remarked on by Popper as he continues by saying:

It is worth noting that these three principles are both epistemological and ethical principles. For they imply, among other things, toleration: if I hope to learn from you, and if I want to learn in the interest of truth, then I have not only to tolerate you but also to recognize you as a potential equal; the potential unity and equality of all men somehow constitute a prerequisite of our willingness to discuss matters rationally⁴⁶.

A merely logical or epistemological account cannot reflect this situation, because the main ideas involved in it «are both epistemological and ethical». This is why there is no vicious circle: ethics serve as a basis for the rational attitude (although this does not mean a complete autonomy of ethics: the rational and the ethical are closely intertwined and related in both directions).

It is also worth noting that Popper includes «The principle of fallibility» as one of the principles that «are in the main *ethical* principles». This assertion could suffice to show that fallibilism does not refer to a mere logical affair, and that it not only includes ethical dimensions, but has, in Popper's own words, mainly an ethical character.

Popper also refers to equality and unity among men as another ethical component of his fallibilism, and this has strong anthropological connotations. I dare say that here we reach the basic presupposition of Popper's entire philosophy: he believes in man, in freedom, in reason, in peace, in respect. Popper is strongly committed to these values, and all his arguments presuppose them. In the same line, he adds:

Thus ethical principles form the basis of science. The idea of truth as the fundamental regulative principle—the principle that guides our search—can be regarded as an ethical principle. The search for truth and the idea of approximation to the truth are also ethical principles; as are the ideas of intellectual integrity and of fallibility, which lead us to a self-critical attitude and to toleration⁴⁷.

It is difficult to exaggerate the relevance of these assertions. They open new

⁴⁶ Karl Popper, *In Search of a Better World*, p. 199.

⁴⁷ *Ibid.*

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views which refer to the ethical basis of science, an entire field of research, and they show that the crucial aspects of Popper's epistemology cannot be properly understood without a reference to their ethical components.

8. Critical rationalism

Popper's epistemology is usually labeled as critical rationalism. I will examine now Popper's own use of that expression.

In a discussion where Popper refers to the difference between higher values which are to be sought by individuals and public affairs which should concentrate on avoiding evils, he says:

This is only part of the case against irrationalism, and of the consequences which induce me to adopt the opposite attitude, that is, a critical rationalism. This latter attitude with its emphasis upon argument and experience, with its device 'I may be wrong and you may be right, and by an effort we may get nearer to the truth', is, as mentioned before, closely akin to the scientific attitude. It is bound up with the idea that everybody is liable to make mistakes⁴⁸.

It is interesting to note that, in this text, Popper speaks specifically about 'critical rationalism', which is the general label applied by Popper himself to his entire philosophy. Critical rationalism is usually considered as an epistemological position linked to the analysis of scientific knowledge. But is it easy to notice that, in the text just quoted, the motivation of critical rationalism does not come from epistemology alone, but also from ethics.

Popper refers also in other places to «the basic attitude of the rationalist, 'I may be wrong and you may be right'»⁴⁹. Seen under this light, his rationalism has a strong ethical component. Indeed, he says:

the link between rationalism and humanitarianism is very close (...) A rationalist attitude seems to be usually combined with a basically egalitarian and humanitarian outlook⁵⁰;

and he adds that the reasons for rationalism are largely ethical reasons:

I have tried to analyse those consequences of rationalism and irrationalism which induce me to decide as I do. I wish to repeat that the decision is largely a moral decision (...) Considered in this way, my counter-attack upon irrationalism is a moral attack⁵¹.

⁴⁸ Karl Popper, *The Open Society and Its Enemies*, vol. 2, pp. 237-238.

⁴⁹ *Ibid.*, p. 240.

⁵⁰ *Ibid.*

⁵¹ *Ibid.*

It is most important, therefore, to realize that Popper's rationalism does not coincide with the meaning usually associated with this term as a philosophical position opposed to empiricism⁵². Instead, it refers to a moral attitude which involves all human existence, and this is why to adopt it implies a moral decision. Popper hopes that violence «can be brought under the control of reason», and adds: «This is perhaps why I, like many others, believe in reason; why I call myself a rationalist. I am a rationalist because I see in the attitude of reasonableness the only alternative to violence».

In the same vein, Popper provides a kind of definition of rationalism which runs this way:

A rationalist, as I use the word, is a man who attempts to reach decisions by argument and perhaps, in certain cases, by compromise, rather than by violence. He is a man who would rather be unsuccessful in convincing another man by argument than successful in crushing him by force, by intimidation and threats, or even by persuasive propaganda⁵³.

Then, Popper points out that the difference does not lie mainly in the use of argument or in the conclusive character of our arguments:

It lies rather in an attitude of give and take, in a readiness not only to convince the other man but also possibly to be convinced by him. What I call the attitude of reasonableness may be characterized by a remark like this: 'I think I am right, but I may be wrong and you may be right, and in any case let us discuss it, for in this way we are likely to get nearer to a true understanding than if we each merely insist that we are right'. It will be realized that what I call the attitude of reasonableness or the rationalistic attitude presupposes a certain amount of intellectual humility⁵⁴.

In other places, Popper attributes to 'rationality' another meaning, especially when he discusses what he labels 'the rationality principle'. But even then, he clearly stresses the relevance of 'rationality' understood as a personal attitude:

Rationality as a personal attitude is the attitude of readiness to correct one's beliefs. In its intellectually most highly developed form it is the readiness to discuss one's beliefs critically, and to correct them in the light of critical discussions with other people⁵⁵.

Of course, this does not mean that one should be in a permanent state of doubt:

⁵² *Ibid.*, p. 224.

⁵³ Karl Popper, *Conjectures and Refutations*, pp. 355-356.

⁵⁴ *Ibid.*, p. 356.

⁵⁵ Karl Popper, *The Myth of the Framework*, p. 181. This quotation is taken from the final part of an essay where Popper compares rationality as an attitude and "the rationality principle".

Popper himself sustained deep commitments about his central humanitarian and rationalist views. Popper obviously refers to open-mindedness and respect towards other people's ideas and creeds, and to the readiness to analyze them and eventually to correct our own ideas as a consequence of discussion.

Although Popper is not inclined to devote much effort to dispute about words, in this case he made such an effort, and this means that he considered the issue most relevant. He presented his idea in a very straightforward way:

We could then say that rationalism is an attitude of readiness to listen to critical arguments and to learn from experience. It is fundamentally an attitude of admitting that '*I may be wrong and you may be right, and by an effort, we may get nearer to the truth*' (...) In short, the rationalist attitude, or, as I may perhaps label it, the 'attitude of reasonableness', is very similar to the scientific attitude, to the belief that in the search for truth we need cooperation, and that, with the help of argument, we can in time attain something like objectivity⁵⁶.

We can realize that Popper uses time and again the same expression and that he adds different accents in every case.

Such a rationalism is rooted, according to Popper, in ancient Greece and Christianity:

I too believe that our Western civilization owes its rationalism, its faith in the rational unity of man and in the open society, and especially its scientific outlook, to the ancient Socratic and Christian belief in the brotherhood of all men, and in intellectual honesty and responsibility⁵⁷.

Last but not least, it is worth noting that Popper's accent on rationality, which is closely related to the scientific attitude, does not imply any kind of *scientism*. On the contrary, Popper asserts: «I am on the side of science and rationality, but I am against those exaggerated claims for science that have sometimes been, rightly, denounced as "scientism"»⁵⁸. Popper also recognizes the existence of ultimate questions which cannot be solved by using only scientific means:

It is important to realize that science does not make assertions about ultimate questions—about the riddles of existence, or about man's task in this world⁵⁹.

All this indicates the existence of a true humanist position. Besides, the ethical roots of Popper's central ideas become apparent in this context when he writes:

⁵⁶ Karl Popper, *The Open Society and Its Enemies*, vol. 2, p. 225.

⁵⁷ *Ibid.*, pp. 243-244.

⁵⁸ Karl Popper, «Natural Selection and the Emergence of Mind», in: Gerard Radnitzky and William W. Bartley, III (editors), *Evolutionary Epistemology, Rationality, and the Sociology of Knowledge* (La Salle, Illinois: Open Court, 1987), p. 141.

⁵⁹ *Ibid.*

The fact that science cannot make any pronouncement about ethical principles has been misinterpreted as indicating that there are no such principles; while in fact the search of truth presupposes ethics⁶⁰,

and he declares his opposition to

the nihilist doctrine that all purpose is only apparent purpose, and that there cannot be any end or purpose or meaning or task in our life⁶¹.

IV. A Realist Epistemology

I have tried to show that Popper's fallibilism is not a merely logical thesis. It contains logical features, but it also refers to ethics: it arose as a consequence of a deep ethical experience, and it refers mainly to an attitude which is closely related to reasonableness and intellectual responsibility. I will now complete this analysis by adding further clarifications about fallibilism and its relationship to a realist epistemology.

9. Some qualifications of fallibilism

Obviously, fallibilism occupies an important place in Popper's philosophy and it cannot be reduced to a mere reaction of the young Popper when he faced some particular events, important as they may be⁶². I will comment on some aspects that can help us to reach a more complete account.

Sometimes, Popper explains fallibilism as the position opposed to verificationism. Thus, regarding the problem of knowledge, Popper distinguishes two main groups of philosophers this way:

The members of the first group—the verificationists or justificationists—hold, roughly speaking, that whatever cannot be supported by positive reasons is unworthy of being believed, or even of being taken into serious consideration. On the other hand, the members of the second group—the falsificationists or fallibilists—say, roughly speaking, that what cannot (at present) in principle be overthrown by criticism is (at present) unworthy of being seriously considered; while what can in principle be so overthrown and yet resists all our critical

⁶⁰ *Ibid.* This point is most important for an analysis of science as a human activity that has pursuit of truth as its primary goal, and therefore for an ethics of science that, on the one hand, constitutes a relevant part of the philosophy of science, and, on the other hand, opposes relativism.

⁶¹ *Ibid.*

⁶² Nevertheless, we have seen that the core of fallibilism was already an immediate consequence of the 1919 Marxist experience. As Kiesewetter puts it, «Ein lokalpolitisches Ereignis wurde zum Auslöser der Theorie des Falsifikationismus!»: Hubert Kiesewetter, «Karl Popper -ein Jünger von Sokrates», p. 17.

efforts to do so may quite possibly be false, but is at any rate not unworthy of being seriously considered and perhaps even of being believed—though only tentatively (...) Falsificationists (the group of fallibilists to which I belong) believe—as most irrationalists also believe—that they have discovered logical arguments which show that the programme of the first group cannot be carried out: that we can never give positive reasons which justify the belief that a theory is true⁶³.

Therefore, Popper relates closely fallibilism and falsificationism, so that falsificationism is considered as a particular species of fallibilism, and this, in its turn, is characterized by means of an attitude related with some kind of values: that which characterizes fallibilism as well as justificationism is that they consider that some kind of assertions are «worthy» or «unworthy» of being «believed» or «seriously considered». This means that fallibilism and justificationism are not merely logical doctrines. Besides, falsificationism is based on the logical impossibility of providing conclusive verifications on behalf of theories; but this typical reason, which is of a logical kind and shows that the verificationist program cannot be carried out, is shared, according to Popper, also by most irrationalists: therefore, falsificationism should be based also on other reasons.

One of the main difficulties of fallibilism seems to be that it provides a negative account of scientific method and, therefore, it does not do justice to the positive results and the corresponding reliability of scientific theories. In this line, Eugene Freeman and Henryk Skolimowski regretted that the methodology of Popper (and Peirce) should be called by so inapt a term as ‘fallibilism’, because this term suggests «the human propensity to make mistakes» and usually means «liable to err» or «liable to be erroneous or inaccurate»; therefore, they say, «the term is singularly inapt, almost to the point of caricature, as a name for the method of science», because «this misses the main point about what science is doing when it is making its mistakes—and that is, not that it makes them, but that (a) it *recognizes* them, and (b) it *eliminates* them, and (c) it *advances* beyond them, and thus, asymptotically, gets closer and closer to the truth». They suggest that «a much happier designation for identifying the methodology of both Peirce and Popper is found in Popper’s inspired phrase, ‘conjectures and refutations’, which comes much closer to capturing the essence of Scientific Method»⁶⁴. These comments are contained in the Freeman-Skolimowski contribution to *The Philosophy of Karl Popper*. When Popper replies, although he comments extensively other parts of the paper, he makes no comment about this⁶⁵. This may perhaps mean that he does not attribute any relevance to that criticism, because it is obvious that fallibilism should not be interpreted as a summary of the scientific method.

⁶³ Karl Popper, *Conjectures and Refutations*, p. 228.

⁶⁴ Eugene Freeman and Henryk Skolimowski, «The Search for Objectivity in Peirce and Popper», in: Paul Arthur Schilpp (editor), *The Philosophy of Karl Popper*, pp. 514-515.

⁶⁵ Karl Popper, *Replies to My Critics*, in: Paul Arthur Schilpp (editor), *The Philosophy of Karl Popper*, p. 1072.

Instead, among Popper's comments on the Freeman-Skolimowski paper, there is one that may have an especial interest here, and it is the following one:

My more far-reaching fallibilism, on the other hand, is the direct result of Einstein's revolution⁶⁶.

The comparison refers to Peirce. We have seen in detail why Popper's Marxist experience made him a fallibilist, and also that this negative experience was completed in the positive aspect when he noticed Einstein's attitude. However, the reference to fallibilism as a result of Einstein's revolution has here a different meaning: it means that we can never be sure about the truth of any scientific theory, even if it has been proved correct in many instances, because (quoting again Popper's letter to me) «no theory was better tested than Newton's—and we certainly cannot be sure of it; Einstein has shown that it is possible that Newton's theory may be false». Popper often refers to the situation provoked by Einstein's revolution in similar terms. But we should notice that Einstein's revolution involved great scientific theories; perhaps we can never be sure of such theories, but we can wonder whether the same holds for more modest scientific statements: why can we not be sure of, say, the existence of entities like atoms or electrons, or empirical laws such as Ohm's law, or configurations like DNA's double helix?

In my opinion, Popper supposes that we are aware of the distinctions which exist between different levels of generality in our scientific constructs, as well as between events, entities, processes and properties, and so on. He very seldom considers this kind of issue, and this can be a source of misunderstandings, because the meaning of fallibilism will partly depend on the nature of the different specific subjects.

Actually, if fallibilism refers to theories and means that any scientific theory may be superseded and that, therefore, we should cultivate an open-mindedness which would exclude any claim of reaching a definitive and irrefutable theory, and also that we should always search for potential refutations in order to improve our theories, then I think that we all are or should be fallibilists. A different issue arises, instead, if someone considers fallibilism as a complete account of scientific method or, at least, of its essentials; this attempt would be seriously incomplete: this is so obvious that perhaps, as already noted, this is why Popper does not comment on the corresponding observation of Freeman and Skolimowski.

All this suggests a very important qualification, namely that we should never forget the context of Popper's assertions about fallibilism. I do not refer only to the literal context, but also to the ideal one. Actually, the target of Popper's fallibilism is certitude: mainly, absolute certitude, but also probabilistic certitude. He correctly distinguishes the objective ambit of truth from the subjective ambit of certitude, and then he claims that epistemology only refers to truth, leaving certainty outside the reach of epistemology. Thus, the search for truth should be completely distinguished from the search for certitude, because our subjective states are completely

⁶⁶ *Ibid.*, p. 1065.

irrelevant with respect to truth-claims. Besides, Popper stresses the logical impossibility of achieving a complete verification of any theory, the breakdown of the alleged definitive character of Newtonian physics, and the dangers involved in the claim to reach definitive theories (also the danger of stagnation: when we think that our theory is a final one, we will cease to search for a better one). All this is really very important. However, Popper's opposition to any kind of certainty may seem too unilateral.

The remedy sometimes will be easy, as when it will suffice to consider explicitly the different aspects of the particular problem and then we realize that we can be «pretty sure» about the existence of laws, entities, properties or processes within the corresponding scientific context. In other cases, however, we will find severe difficulties if we desire to attribute a definite degree of certitude to our scientific constructions; this usually happens when we consider the great theories, which provide an entire system whose global truth can hardly be defined. In any case, all this corresponds to an entire theory of scientific knowledge which transcends the particular problems relating to fallibilism and should include qualifications about different kinds of subjects and types of certainty.

10. The ethical meaning of fallibilism

Popper wanted to enlarge *The Open Society* with two *Addenda*. The second, dated 1965, is very brief and refers to Marx. The first, dated 1961, is entitled «Facts, Standards, and Truth: A Further Criticism of Relativism»; it is long, and Popper divided it into 18 paragraphs, so that it constitutes something like a new end of the book, in which the basic ideas about truth and knowledge are revisited. In its conclusion, Popper expounds what a fallibilist approach has to offer to the social philosopher, and he mentions two issues. The first refers to the possibility of evaluating tradition as well as revolutionary thought. About the second, which became the very conclusion of the book, he writes:

Even more important, it can show us that the role of thought is to carry out revolutions by means of critical debates rather than by means of violence and of warfare; that it is the great tradition of Western rationalism to fight our battles with words rather than with swords. This is why our Western civilization is an essentially pluralistic one, and why monolithic social ends would mean the death of freedom: of the freedom of thought, of the free search for truth, and with it, of the rationality and the dignity of man⁶⁷.

These words clearly show the ethical component of Popper's philosophy. However, they could be interpreted, following literally his own words, as a kind of social consequence of Popper's epistemology: interesting as it could be, it would remain outside the core of Popper's philosophy.

⁶⁷ Karl Popper, *The Open Society and Its Enemies*, vol. 2, p. 396.

My contention is that we should read Popper and interpret his arguments in the light of ethical values, namely his commitment to human dignity, freedom, reason, and truth.

Otherwise, we seriously risk misunderstanding him and we easily can substitute the real Popper by a dead skeleton full of unsolved problems.

From the chronological point of view, the priority corresponds to the ideas elaborated by Popper on the occasion of his encounter with Marxism. He tells us in his autobiography:

Once I had looked at it critically, the gaps and loopholes and inconsistencies in the Marxist theory became obvious (...) It took me some years of study before I felt with any confidence that I had grasped the heart of the Marxist argument (...) Even then I had no intention of publishing my criticism of Marx, for anti-Marxism in Austria was a worse thing than Marxism: since the social democrats were Marxist, anti-Marxism was very nearly identical with those authoritarian movements which were later called fascist. Of course, I talked about it to my friends. But it was not till sixteen years later, in 1935, that I began to write about Marxism with the intention of publishing what I wrote. As a consequence, two books emerged between 1935 and 1943—*The Poverty of Historicism* and *The Open Society and Its Enemies*⁶⁸.

Therefore, we could say that, even if *The Logic of Scientific Discovery* was Popper's first published book, the ideas underlying the two books on social philosophy seen through ethical glasses had the real priority and influenced to a great extent the development of Popper's epistemology.

I would even add that Popper's epistemology becomes a source of all kinds of problems when we forget—and this is usually done—its connections with social issues and ethical attitudes. Epistemology cannot be reduced to the study of logical relations between statements, because science is, above all, a human activity directed towards some goals that are achieved through very sophisticated methods, and those methods include stipulations and decisions which go far away from pure logic. Of course, logic must be respected as an indispensable tool, but science would not progress guided by logic alone.

Actually, Popper knew this very well and includes in his epistemology, already in his first writings and always after, important references to the pragmatic, ethical and social values which are relevant in scientific practice. However, the usual image of his work on epistemology is centered around logic alone. This may be due to the relevance of his remarks about the logical reasons that make impossible the verification of hypotheses, and also to the contrast of his epistemology with the Kuhn-inspired and sociologically-centered epistemology in which the problem of truth is missing.

The ethical features of Popper's epistemology are not found only, or mainly, in his last years. They are present from the very beginnings. For instance, in an address

⁶⁸Karl Popper, *Autobiography of Karl Popper*, p. 26.

delivered in June 1947 and first published in 1948, after describing the evils of the post-war situation, he says:

But in spite of all this I am today no less hopeful than I have ever been that violence can be defeated (...) that violence *can* be reduced, and brought under the control of reason. This is perhaps why I, like many others, believe in reason; why I call myself a rationalist. I am a rationalist because I see in the attitude of reasonableness the only alternative to violence⁶⁹.

Years later, in a paper first published in 1970, Popper explained something that he repeated tirelessly during many years:

If the method of rational critical discussion should establish itself, then this should make the use of violence obsolete. *For critical reason is the only alternative to violence so far discovered.* It is the obvious duty of all intellectuals to work for *this* revolution—for the replacement of the eliminative function of violence by the eliminative function of rational criticism⁷⁰.

«I abhor violence»⁷¹. Popper's philosophy is built, in all of its elements, on the basis of this quotation. Reasonableness, rational criticism, fallibilism, are labels that represent several features of the same reality: peace, respect, freedom.

11. Faith in Reason

Popper's philosophy is usually labeled, following his own proposal, as *critical rationalism*, because its central tenet is *criticism*, i. e. the attitude which considers knowledge not as something definitive but as always open to further objections. In this context, the conjectural character of all knowledge occupies a central place, and the quest for certainty appears as a mistaken perspective which should be substituted by the critical approach. All this is repeatedly asserted by Popper, so that it is unnecessary to prove it. Then, a big question arises: Which is the basis of critical rationalism itself? Or, put in another way: Can critical rationalism be applied to itself? And, if this were not the case, the question arises about its coherence: Is critical rationalism tenable, even when its basic thesis cannot be submitted to the exigencies that this thesis proclaims?

These questions are anything but new, and Popper himself faced them. Their answer is a straightforward one: as we have already seen, following Popper's own words, the reasons for his rationalism are largely ethical reasons. This is clearly stated already in *The Open Society*, where Popper speaks about «faith in reason, or rationalism, or humanitarianism, or humanism», and claims that

⁶⁹ Karl Popper, *Conjectures and Refutations*, p. 355.

⁷⁰ Karl Popper, *The Myth of the Framework*, p. 69.

⁷¹ *Ibid.*, p. 34.

Humanism is, after all, a faith which has proved itself in deeds, and which has proved itself as well, perhaps, as any other creed⁷².

Popper's rationalism, therefore, is doubtless a faith, a creed, which can be compared with other faiths and creeds: and it is a creed based on «faith in reason». That this faith is based on a moral choice is also clearly stated by Popper when he discusses the reasons for and against critical rationalism and he says that critical rationalism

recognizes the fact that that the fundamental rationalist attitude results from an (at least tentative) act of faith—from faith in reason. Accordingly, our choice is open. We may choose some form of irrationalism, even some radical or comprehensive form. But we are also free to choose a critical form of rationalism, one which frankly admits its origin in an irrational decision (and which, to that extent, admits a certain priority of irrationalism). The choice before us is not simply an intellectual affair, or a matter of taste. It is a moral decision (in the sense of chapter 5). For the question whether we adopt some more or less radical form of irrationalism, or whether we adopt that minimum concession to irrationalism which I have termed 'critical rationalism', will deeply affect our whole attitude towards other men, and towards the problems of social life⁷³.

The reference to chapter 5 of *The Open Society* is clarifying because in that chapter Popper defends the *dualism of facts and decisions*, by arguing that «Nature consists of facts and of regularities, and is in itself neither moral nor immoral. It is we who impose out standards upon nature, and who in this way introduce morals into the natural world, in spite of the fact that we are part of this world». As Popper goes on, he speaks about «decisions for which we are morally responsible», claims that «responsibility, decisions, enter the world of nature only with us», and also that «these decisions can never be derived from facts (or from statements of facts)»⁷⁴.

Therefore, we can conclude that Popper in some way identifies his critical rationalism with his humanism, that both are based on a kind of faith in reason which is a true faith because it cannot be derived from facts, and also that this faith is the result of a choice that has a moral character because it has many important consequences in our attitudes towards human persons.

We should add that, according to Popper, the moral choice for rationalism is not a blind one, as it can be helped by arguments:

As we have seen before (in chapter 5), and now again in our analysis of the uncritical version of rationalism, arguments cannot *determine* such a fundamental moral decision. But this does not imply that our choice cannot be *helped* by any kind of argument whatever. On the contrary, whenever we are faced with a moral decision

⁷² Karl Popper, *The Open Society and Its Enemies*, vol. 2, p. 258.

⁷³ *Ibid.*, pp. 231-232.

⁷⁴ *Ibid.*, vol. 1, pp. 61-63.

of a more abstract kind, it is most helpful to analyse carefully the consequences which are likely to result from the alternatives between which we have to choose⁷⁵.

In *The Open Society* we find other statements which insist on this line and show that these points are central in Popper's attitude, for instance when Popper says:

I have tried to analyse those consequences of rationalism and irrationalism which induce me to decide as I do. I wish to repeat that the decision is largely a moral decision. It is the decision to take argument seriously. This is the difference between the two views; for irrationalism will use reason too, but without any feeling of obligation; it will use it or discard it as it pleases. But I believe that the only attitude which I can consider to be morally right is one which recognizes that we owe it to other men to treat them and ourselves as rational. Considered in this way, my counter-attack upon irrationalism is a moral attack⁷⁶.

We have found already some references to Popper's analysis of the consequences of rationalism and irrationalism. Typically, they include, since the times of *The Open Society*, references to the critical rationalist's device: «I may be wrong and you may be right, and by an effort we may get nearer to the truth»⁷⁷. Other consequences of this view are that «Faith in reason is not only a faith in our own reason, but also—and even more—in that of others», so that «Rationalism is therefore bound up with the idea that the other fellow has a right to be heard, and to defend his arguments. It thus implies the recognition of the claim to tolerance»; also, that «Rationalism is linked up with the recognition of the necessity of social institutions to protect freedom»; and finally, that «The adoption of rationalism implies, moreover, that there is a common medium of communication, a common language of reason; it establishes something like a moral obligation towards that language, the obligation to keep up its standards of clarity and to use it in such a way that it can retain its function as the vehicle of argument». We should not be surprised to find in this context, once more, the expression «faith in reason» as a central characteristic of rationalism⁷⁸, which is attributed by Popper to the greatest among the founders of the tradition of critical rationalism, Socrates⁷⁹.

All this does not correspond to a particular stage of Popper's thought. On the contrary, it is a constant claim that is repeated in the different works and times as something really important. A reference to two statements in works posterior to *The Open Society* will suffice to show it. In the lecture *Utopia and Violence* from 1947 and afterwards included in *Conjectures and Refutations*, Popper refers to his non-dogmatic rationalism as something that cannot be proved and that includes faith in reason and in man with the following clear accent:

⁷⁵ *Ibid.*, vol. 2, p. 232.

⁷⁶ *Ibid.*, p. 240.

⁷⁷ References to this statement as the basic attitude of critical rationalists can be found in: *The Open Society and Its Enemies*, vol. 2, pp. 238 and 240.

⁷⁸ *Ibid.*, pp. 237-240.

⁷⁹ *Ibid.*, vol. 1, p. 185.

I think I have said enough to make clear what I intend to convey by calling myself a rationalist. My rationalism is not dogmatic. I fully admit that I cannot rationally prove it. I frankly confess that I choose rationalism because I hate violence, and I do not deceive myself into believing that this hatred has any rational grounds. Or to put it another way, my rationalism is not self-contained, but rests on an irrational faith in the attitude of reasonableness. I do not see that we can go beyond this. One could say, perhaps, that my irrational faith in equal and reciprocal rights to convince others and to be convinced by them is a faith in human reason; or simply, that I believe in man⁸⁰.

Many years later, in his 1985 lecture *Die Erkenntnistheorie und das Problem des Friedens*, he speaks about his basic position as his religion and as opposed to some false religions of our days⁸¹.

Above all, in the Introduction to *The Myth of the Framework*, published in 1994, Popper included some considerations which, if considered isolated from other works, could perhaps seem a kind of senile moralizing, but which, considered in the background of the previous quotations, show that they are, in a very strict sense, a literal summary of Popper's main contentions. They are so important that they deserve a long quotation:

All, or almost all, the papers collected in this volume are written to defend rationality and rational criticism. It is a way of thinking, and even a way of living: a readiness to listen to critical arguments, to search for one's own mistakes, and to learn from them. It is, fundamentally, an attitude that I have tried to formulate (perhaps first in 1932) in the following two lines: '*I may be wrong and you may be right, and by an effort, we may get nearer to the truth*'. These two lines in italics here quoted were first printed in 1945 in my *Open Society* (...) and I italicized the lines in order to indicate that I regarded them as important. For these two lines were an attempt to summarize a very central part of my moral articles of faith. The view that they summed up I called 'critical rationalism'. But the critics of my *Open Society* and of critical rationalism were, it seemed, blind to these two lines: so far as I know, none of my critics showed any interest in them, or quoted them (...) This is the reason why, after half a century, I am quoting them here. They were intended to contain, in a nutshell, a confession of faith, expressed simply, in unphilosophical, ordinary English; a faith in peace, in humanity, in tolerance, in modesty, in trying to learn from one's own mistakes; and in the possibilities of critical discussion. It was an appeal to reason⁸².

The preceding lines clearly show the deepest character of Popper's critical rationalism, its roots and its main consequences. After reading them there can be no

⁸⁰ Karl Popper, *Conjectures and Refutations*, p. 357.

⁸¹ Karl Popper, *Alles Leben ist Problemlösen*, p. 123.

⁸² Karl Popper, *The Myth of the Framework*, pp. XII-XIII.

doubt that they are seriously meant to summarize the central features of Popper's position and that this position has deep ethical components.

Popper refers in those lines to the fact that his critics were blind to his main tenets. Important as this may be, there is another fact which is perhaps even more important, namely, the interpretation of Popper's critical rationalism in the hands of his friends. Did they realize what Popper really meant?

Surely, the most influential interpretation of Popper's thought in a friendly way was proposed by William Warren Bartley, and its relevance for our present considerations can hardly be overestimated.

Bartley arrived from Harvard at the London School of Economics in September 1958 to work on his doctoral studies with Popper. Until 1965, their relations were excellent. It was during this epoch that Bartley found critical rationalism insufficient because of the element of faith it included in its basis, and he wanted to formulate an extension of Popper's theory which called 'comprehensive critical rationalism' and, afterwards, 'pancriticism'. The main idea was that criticism had to be extended in such a way that the elements related with any kind of faith could be eliminated in order to obtain a completely critical position.

Bartley discussed these problems with Popper, who introduced in the 1962 edition of his *Open Society* several changes, and recognized his debt to Bartley with this words:

I am deeply indebted to Dr. William W. Bartley's incisive criticism which not only helped me to improve chapter 24 of this book (especially page 231) but also induced me to make important changes in the present *addendum*⁸³.

Nevertheless, Bartley judged that the changes were insufficient because the faith-elements were retained, and continued to work in his own line of thought.

Nobody knows what would have happened if Bartley's relationship with Popper had not been interrupted in 1965, owing to the paper that Bartley presented in the International Symposium held in London that year⁸⁴. When good relations were restored many years later, Bartley was a great help for the publication of Popper's *Postscript*. What we know is that Bartley's pancriticism provoked considerable discussion and that Popper himself did not intervene in it⁸⁵.

We also know that, in spite of Bartley's comments, Popper did not change his mind in the written text of *The Open Society*, as can be easily seen in volume ii, page

⁸³ Karl Popper, *The Open Society and Its Enemies*, vol. 2, p. 369.

⁸⁴ See: William W. Barley, III, «Theories of Demarcation between Science and Metaphysics», in: Imre Lakatos and Alan Musgrave (editors), *Problems in the Philosophy of Science* (Amsterdam: North-Holland, 1968), pp. 40-64; Popper's reply: Karl Popper, «Remarks on the Problems of Demarcation and of Rationality», *ibid.*, pp. 88-102; and Bartley's reply to Popper: *ibid.*, pp. 113-119.

⁸⁵ See the seven papers, devoted to this subject, which are collected in part II («Theory of Rationality and Problems of Self Reference») of: Gerard Radnitzky and William W. Bartley, III (editors), *Evolutionary Epistemology, Rationality, and the Sociology of Knowledge*. The first and the last are written by William W. Bartley: «Theories of Rationality», pp. 205-214, and «A Refutation of the Alleged Refutation of Comprehensively Critical Rationalism», pp. 313-341.

231 (the one which Popper mentions especially), because there we find several references to faith in reason. Popper previously says that

Neither logical argument nor experience can establish the rationalist attitude; for only those who are ready to consider argument or experience, and who have therefore adopted this attitude already, will be impressed by them;

then he goes on by saying:

We have to conclude from this that no rational argument will have a rational effect on a man who does not want to adopt a rational attitude. Thus a comprehensive rationalism is untenable;

and finally he concludes:

But this means that whoever adopts the rationalist attitude does so because he has adopted, consciously or unconsciously, some proposal, or decision, or belief, or behaviour; an adoption which may be called 'irrational'. Whether this adoption is tentative or leads to a settled habit, we may describe it as an irrational *faith in reason*. So rationalism is necessarily far from comprehensive or self-contained⁸⁶.

All this is clear enough. Nevertheless, someone could ask whether Popper changed his mind or not during the long period that elapsed after the 1962 edition of *The Open Society*. Probably, the most important allusion to this subject is contained in several pages of volume I of Popper's *Postscript*, edited by Bartley himself. These pages were partly rewritten, as Popper tells us, in 1979⁸⁷, and some people think that they contain Popper's appropriation of Bartley's views.

The pages just mentioned contain a discussion of Popper's anti-justificationist philosophy in dialogue with Bartley, and we can read in them several positive judgments of Bartley's comments and a sharp negation of the relevance of belief in the following terms:

Now like E. M. Forster I do not believe in belief: I am not interested in a philosophy of belief, and I do not believe that beliefs and their justification, or foundation, or rationality, are the subject-matter of the theory of knowledge⁸⁸.

⁸⁶ Karl Popper, *The Open Society and Its Enemies*, vol. 2, pp. 230-231.

⁸⁷ Karl Popper, *Realism and the Aim of Science*, from the *Postscript to the Logic of Scientific Discovery*, edited by William W. Bartley, III (London: Hutchinson, 1983), vol. I, pp. 18-22. These pages belong to the Introduction, section 2, entitled «The Critical Approach: Solution of the Problem of Induction», which has the motto: «I do not believe in Belief» (E. M. Forster). In page 18 note 1, Popper refers to two of Bartley's publications, Bartley adds a third reference, and Popper notes: «The present section was partly rewritten in 1979».

⁸⁸ Karl Popper, *Realism and the Aim of Science*, pp. 21-22.

Do we need anything else in order to interpret definitively Popper's rationalism in a Bartleyan way?

Nevertheless, I do not think that this is the case. That belief and its justification should not play any role in the theory of knowledge and that philosophy should concentrate on the objective-logical features of knowledge, be it true or false, is anything but new in Popper's philosophy, as he has repeated this on countless occasions since the 1930s. That we cannot rationally argue for belief, be it true or false, pertains to the very notion of belief used by Popper. However, if we read carefully Popper's quoted words (and the entire section from which they are extracted as the most representative part for our purpose), we will not find anything contrary to that 'faith in reason' which is presupposed by Popper's rationalism. Besides, we should not forget that this rationalism is equated by Popper to his humanism, and that it includes not only a kind of faith in reason which could be easily dismissed as something not too important, but an entire set of presuppositions and attitudes that constitute the core of Popper's own position.

Last but not least, we dispose of a commentary of Popper on this subject, in his Introduction to *The Myth of the Framework*, published in 1994 (the year of Popper's death) with an Introduction already quoted as containing a clear account of the core of Popper's critical rationalism. There, explaining his classical phrase «I may be wrong and you may be right, and by an effort, we may get nearer to the truth», Popper complains that his critics have paid no attention to it, and afterwards extends his complaints to other misunderstandings of his position. One of them, that which is relevant here, is the following:

There also was an attempt to replace my critical rationalism by a more radically critical and more explicitly defined position. But because this attempt bore the character of a definition, it led to endless philosophical arguments about its adequacy⁸⁹.

It is most difficult to interpret this last comment, although it does not contain an explicit reference to Bartley (who by that time was already dead), except as a denial of Bartley's pancriticism. The issue is very important because a correct interpretation of Popper's philosophy depends, to a great extent, on this point, and it is easy to follow one of his best disciples and collaborators. That this should not be the case can be certified by the words that follow Popper's comment on Bartley in the Introduction of *The Myth of the Framework*. These words refer again to the two lines «I may be wrong and you may be right...», and they say:

I never found anyone who had taken notice of the two lines that I had intended as my moral *credo*⁹⁰.

We find again an unmistakable reference to Popper's «moral credo», and there-

⁸⁹ Karl Popper, *The Myth of the Framework*, p. XII.

⁹⁰ *Ibid.*

fore to his ethics and faith which, besides, are united in a single expression. And we face a strong lament, clearly voiced at the end of his life, where Popper himself perhaps desires to tell us that the usual interpretations of his philosophy are not correct at all, because they fail to note that what constitutes the hard core of his rationalism and humanism, which has an ethical character and relies on a special kind of faith, namely faith in reason, in freedom, in peace, in humanism, in mutual respect and in tolerance.

12. Realism: Metaphysical and Epistemological

There have been several attempts to provide a unifying key to Popper's philosophy. John Watkins, who worked for many years with Karl Popper in the Department of Philosophy of the London School of Economics, proposed indeterminism as such a key⁹¹. Emergence is another good candidate⁹². Popper himself, in his comment to the paper of Watkins just quoted, manifested his preference for criticism as the key of his entire philosophy, and his textual words are worth quoting; indeed, even if he recognized that Watkins' attempt was coherent and well argued, he wrote:

I see the "unity" of my philosophy in a slightly different way: I should be inclined to regard my emphasis on *criticism* (or the doctrines of critical realism or critical optimism) as being more appropriate than indeterminism is to the unity of my theoretical and practical thinking⁹³.

These words are important because they show that when Popper spoke about criticism he connected this idea with realism. The central concern of Popper's epistemology is truth and our effort to progress in our search for truth.

It is not my aim to present another attempt in this line. Instead, the ethical perspective provides an understanding of Popper's philosophy at a different level which refers to the origins of the other keys. More specifically, it permits us to understand the meaning of Popper's criticism and critical rationalism. Indeed, when we see Popper's epistemology as explained by the ethical key we realize that it represents

⁹¹ The proposal of John Watkins is contained in his paper «The Unity of Popper's Thought», in: Paul Arthur Schilpp (editor), *The Philosophy of Karl Popper*, pp. 371-412.

⁹² Josep Corcó sees emergence and creativity as the unifying key of Popper's thought in his book: *Novedades en el universo. La cosmovisión emergentista de Karl R. Popper* (Pamplona: Eunsa, 1995). A hint in this line can be found in: J. Dumoncel, «L'anti-reductionisme poppérien face aux tendances dominantes de la philosophie analytique», in: Renée Bouveresse and Hervé Barreau, *Karl Popper. Science et philosophie* (Paris: Vrin, 1991), pp. 109-112; and also in: William W. Bartley, III, «The Philosophy of Karl Popper», part II: «Consciousness and Physics: Quantum Mechanics, Probability, Indeterminism, and the Mind-Body Problem», *Philosophia* (Israel), 7 (1978), p. 676.

⁹³ Karl Popper, «Watkins on Indeterminism as the Central Problem of My Philosophy», in: *Replies to My Critics*, p. 1053.

an attitude rather than a doctrine. It is a doctrine centered around an attitude, the attitude of reasonableness, of giving importance to rational discussion, a discussion in which we are open-minded with respect to any kind of objections or qualifications, ready to give up a cherished opinion when there are reasons to abandon it. Popper's epistemology can be seen as a theoretical articulation of this kind of attitude.

Popper is mainly interested in truth. Popperian criticism is essentially connected to the pursuit of truth: it is an attitude whose relevance lies precisely in the essential role that it plays if we are to search a true knowledge about the real world. Actually, when Popper argues for a philosophical realism as opposed to any form of subjectivism and idealism, his arguments adopt a tone which almost makes us forget his insistence on the conjectural character of our knowledge, as I will show now.

The first volume of Popper's *Postscript to The Logic of Scientific Discovery* was entitled precisely *Realism and the Aim of Science*. There Popper strongly argues in favor of a metaphysical realism which recognizes the reality of a world independent of our will and also of an epistemological realism which considers the pursuit of a true knowledge of that world as the main objective of science. Popper's emphasis in his argument is so strong that we find there some expressions that might seem quite un-Popperian. But they are there. In my opinion, this means that once again we have good reasons to interpret Popper's criticism as an attitude that may be complemented with further metaphysical doctrines.

I will refer to several of those expressions such as they are contained in section 7 of the first chapter of the *Postscript*, volume I, which is entitled *Metaphysical Realism*⁹⁴. There, Popper refers first to realism as an important ingredient of *The Logic of Scientific Discovery*. He says that, even if that book was not a book on metaphysics, yet he stated in it «that I believed in metaphysical realism», and he adds: «And I believe in metaphysical realism still». He goes on by saying that metaphysical realism is not a part or a presupposition of that book, but he adds: «yet, it is very much there. It forms a kind of background that gives point to our search for truth. Rational discussion, that is, critical argument in the interest of getting nearer to the truth, would be pointless without an objective reality, a world which we make it our task to discover». In case that the reader might think that these are accidental second thoughts, Popper adds: «This robust if mainly implicit realism which permeates the *L.Sc.D.* is one of its aspects in which I take some pride. It is also one of its aspects which links it with this *Postscript*, each volume of which attacks one or another of the subjectivist, or idealist, approaches to knowledge». Then, he announces that he will devote ten sections to discussion of this subject (sections 7-16).

We realize that, in the text just quoted, Popper says that he «believed» and continues to «believe» in metaphysical realism. This is apparently quite un-Popperian if we recall that in section 2 of the same chapter he emphasizes that he does not believe in belief. We find other apparently un-Popperian expressions when Popper develops his discussion about realism. He says, for instance, that both realism and idealism share the common characteristic of being non-demonstrable and

⁹⁴ Karl Popper, *Realism and the Aim of Science*, pp. 80-88.

irrefutable, but, he adds, «there is an all-important difference between them. Metaphysical idealism is false, and metaphysical realism is true. We do not, of course, ‘know’ this, in the sense in which we may know that $2 + 3 = 5$; that is to say, we do not know it in the sense of demonstrable knowledge. We also do not know it in the sense of testable ‘scientific knowledge’. But this does not mean that our knowledge is unreasoned, or unreasonable. On the contrary, there is no factual knowledge which is supported by more or by stronger (even though inconclusive) arguments». This assertion about realism and idealism could not be stronger, and the talk about positive arguments seems to clash with the extreme criticism often attributed to Popper. Besides, Popper continues speaking of «the positive arguments in support of metaphysical realism».

Then, we find a series of assertions that have an unmistakable flavor of certainty that could be a surprise again for the supporters of an extreme version of criticism. Indeed, when Popper exposes his argument in favor of metaphysical realism, he writes:

My argument is this. I know that I have not created Bach’s music, or Mozart’s; that I have not created Rembrandt’s pictures, or Botticelli’s. I am quite certain that I never could do anything like it ... I know that I do not have the imagination to write anything like the *Iliad* or the *Inferno* or *The Tempest*... I know that I am incapable of creating, out of my own imagination, anything as beautiful as the mountains and glaciers of Switzerland, or even as some of the flowers and trees in my own garden. I know that ours is a world I never made.

Of course, Popper deals here with very elementary truths. But he deals with them in a completely realistic way without any concession to the typical arguments of the subjectivist or idealist philosophies. In this field, Popper does not seem afraid of saying that he really knows something for certain. He even adds shortly afterwards:

None of these arguments should be needed. Realism is so obviously true that even a straightforward argument such as the one presented here is just a little distasteful.

I think that all this argument about metaphysical realism could be subscribed to by a Thomist like Étienne Gilson. Popper the criticist uses the same kind of arguments used by Gilson in order to arrive to the same conclusion with the same kind of certainty.

This is not, however, the only occasion in which Popper argues about metaphysical issues. When accused of being or having been a positivist, he would reply that he never denied the meaningfulness of metaphysics and also that he had often discussed metaphysical problems, which is true. I would underline that, even if Popper were to tell us that his points of view should be considered as conjectures, in fact he argues as strongly as anyone would argue when he attacks materialism or argues for realism, indeterminism and emergence.

The entire issue can be clarified if we recall that, arguing in favor of realism, Popper writes: «We do not, of course, ‘know’ this, in the sense in which we may know that $2 + 3 = 5$; that is to say, we do not know it in the sense of demonstrable knowledge. We also do not know it in the sense of testable ‘scientific knowledge’. But this does not mean that our knowledge is unreasoned, or unreasonable». I think that a dialogue about this text could suffice to reach a wide agreement on some issues between Popper and many philosophical realists, Thomists included.

From a Thomistic point of view, I would say that we hardly know anything about the physical world «in the sense in which we may know that $2 + 3 = 5$ », so that, if we consider this as the paradigm of «demonstrable knowledge», Popper would be right when he considers our knowledge as basically conjectural. This point is forcefully argued by Zanotti, who examines the Thomistic doctrine about the knowledge of physical essences. I would add that, if we consider knowledge in the sense of «testable ‘scientific knowledge’», we should be ready to admit that in empirical science there is a special source of intersubjectivity and truth; this source, however, is nothing mysterious: it consists in the fact that the natural world is organized around spatio-temporal repeatable patterns. Scientific experiments are possible because there are repeatable patterns. Instead, when we deal with the human sciences, we must take into account specific human dimensions which, even if they are related to spatio-temporal patterns, they also transcend them. Therefore, we cannot settle metaphysical discussions by using exactly the same kind of arguments used in empirical science; nevertheless, we can eventually reach conclusions that are much more certain than the conclusions of the empirical sciences. Zanotti also provides good arguments and examples about this.

Popper advocates several philosophical doctrines that are most important for a Thomist and for many other realist philosophers. I have already shown that this is the case when he argues for metaphysical realism. This can be also extended to the image of empirical science as a human enterprise whose aim is the pursuit of truth; to the relevance of ethical reasons for the search of truth; to the claim that our search for empirical knowledge must be based on the method of conjectures and refutations; to the idea that beyond empirical science there exists an ambit of metaphysical questions which cannot be settled by experiments but nevertheless can be rationally discussed; to the relevance of intellectual modesty especially in the ambit of intellectual enterprises; to the necessity of fostering the attitude of dialogue and reasonableness in human affairs.

Therefore, I was not surprised when I found out that a Thomist like Gabriel Zanotti interpreted Popper with sympathy and argued that Popper could be considered as a complement of Thomism. In some way he sees Popper’s methodology, anthropology and social theory as complementary with Aquinas’ metaphysics.

Of course, the differences between Popper and Aquinas are great and Zanotti is aware of them, as I myself am too. Popper was an agnostic who did not like to discuss theological issues and Aquinas was a saint who was mainly a theologian. The kind of problems that are central in their respective philosophies are also quite different. Only, there are also important points of contact.

I dare say that some apparent difficulties could be overcome by a preliminary dialogue directed towards an understanding of the respective frameworks. However, the task is not an easy one. I would not say now that Popper's philosophy is mainly an epistemology that is applied to the social field; I would rather say that the reverse is true. If this is the case, then the dialogue of a Thomist with Popper is probably more feasible than it seems at first sight, but, in any case, it is not an easy affair. This essay on the ethical roots of Popper's epistemology can perhaps help to make that task easier.

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Abstract: *La filosofia di Karl Popper viene di solito considerata come un'epistemologia che, quando è applicata alla teoria sociale, dà luogo a una "società aperta". Ciononostante, nella sua filosofia occupano un posto primario le ragioni etiche. La considerazione della filosofia di Popper in prospettiva etica permette di interpretarla in un modo più autentico e unitario, e mostra inoltre che il suo pensiero si può complementare con altre impostazioni filosofiche.*