A TRANSFORMATION OF CRITICAL RATIONALISM^{*}

UNA TRANSFORMACIÓN DEL RACIONALISMO CRÍTICO

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Resumen Abstract

Popper entiende la racionalidad en términos de nuestra actitud intelectual. Nuestra racionalidad (o razonabilidad) no es una facultad ni un don intelectual. No es algo dado a un individuo, de acuerdo con él. Es una actitud que hemos adquirido de nuestra relación intelectual con otros. Popper no usa "racionalismo" como un término filosófico que significa intelectualismo en oposición a empirismo.

El artículo muestra claramente que Popper entiende el racionalismo no como la grandeza de la razón, sino como la comprensión de uno del límite de la razón. Sin embargo, surge una pregunta; ¿qué tan bien ha comprendido tal racionalista el límite de su propio racionalismo? ¿Cómo debemos entender este límite? Popper afirma que un racionalista ha notado el límite del racionalismo al prever el carácter auto-destructivo del racionalismo comprehensivo. A fin de hacer más comprensible su afirmación tenemos que explicar el racionalismo comprehensive que Popper aprehendió. Popper understands the rationality in terms of our intellectual attitude. Our rationality (or reasonableness) is neither a faculty nor an intellectual gift. It is not something given to an individual, according to him. It is an attitude that we have acquired from our intellectual intercourse with others. Popper does not use "rationalism" as a philosophical term that means intellectualism in opposition to empiricism.

This paper clearly shows that Popper understands rationalism not as the almightiness of reason, but as one's realization of the limit of reason. However, there arises a question; how has such a rationalist realized the limit of his own rationalism? How we should understand this limit? Popper asserts that a rationalist has noticed the limit of rationalism by envisaging the self-defeating character of the comprehensive rationalism. In order to make more understandable his assertion, we must at first explain the comprehensive rationalism apprehended by Popper.

PALABRAS CLAVE

Racionalismo crítico, irracionalistss, justificacionismo, no justificacionismo, Popper. Critical rationalism, irrationalists, justificationism, nonjustificationism, Popper.

KEY WORDS

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1. A collapse of the comprehensive rationalism

Popper understands the rationality in terms of our intellectual attitude. Our rationality (or reasonableness) is neither a faculty nor an intellectual gift. It is not something given to an individual, according to him. It is rather a social attitude that we have acquired from our intellectual intercourse with others. A rationalist tries to solve as many problems as possible not by an appeal to emotions or passions or violence, but by an appeal to argument and experience. Popper does not use "rationalism" as a traditional philosophical term in the sense of continental intellectualism opposing to British empiricism. It rather includes both empiricism and intellectualism because in Popper's sense it makes use of both experience and intellect. Popper explains his rationalism in the following 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' (Popper 1966 225).

He continues to say:

What I shall call the 'true rationalism' is the rationalism of Socrates. It is the awareness of one's limitations, the intellectual modesty of those who know how often they err, and how much they depend on others even for this knowledge. It is the realization that we must not expect too much from reason; that argument rarely settles a question, although it is the only means for learning - not to see clearly, but to see more clearly than before. (227)

This passage clearly shows that Popper understands rationalism not as the almightiness of reason, but as one's realization of the limit of reason. However, there arises questions; How has such a rationalist realized the limit of his own rationalism? How we should understand this limit?

Popper asserts that a rationalist has noticed the limit of rationalism by envisaging the self-defeating character of the comprehensive rationalism. In order to make more understandable his assertion, we must firstly get to the point of his argument of the comprehensive rationalism depicted by him. According to him, this type of rationalism claims to satisfy the requirement: A rationalist is "not prepared to accept anything that cannot be defended by means of argument or experience" (230). But just on this point Popper raises a question: Can this rationalism itself be supported or defended "by means of argument or experience"?

He puts in a question the validity of self-application of the principle of the comprehensive rationalism.

Popper asserts that the comprehensive rationalism couldn't be defended by argument. It is impossible to justify it by its own requirement. I will try to explain Popper's conclusion below.

When confronted with the problem of self-application of the comprehensive rationalism, we cannot certainly accept the argument which supports it unless we have already accepted it. Only if we have beforehand accepted its requirement, we can accept the argument supporting it. Therefore it is undeniably meaningless to argue for an adoption of the comprehensive rationalism in the presence of those who have already accepted its principle.

On the other hand, if one has not already accepted its requirement, then one cannot accept any arguments or those of a certain kind. Therefore it is useless to present arguments. Those who do not admit any value of argument in general, will not pay any attention to the argument as such, even worse to those of the comprehensive rationalism.

The comprehensive rationalists cannot defend themselves against the irrationalists who despise arguments. Since the requirement of the comprehensive rationalists is inconsistent in its self-application, it prohibits them to accept their own rationalism precisely according to their own principle.

Hence the comprehensive rationalists are compelled to discard their own rationalism by the force of arguments. This is very paradoxical and defeats the comprehensive rationalism completely.

Where can we find the causes of this paradoxical situation? Popper points that the comprehensive rationalist presupposes an extraordinary assumption. That is to say, the comprehensive rationalist requires that no assumption should be accepted without argument. This requirement amounts to the presupposition that we should argue without any assumption, and also to the presupposition that we can proceed on this way and lead to significant results. Simply speaking, this requirement is itself very audacious and indeed colossal. But can we argue without any assumption?

It is obvious that we always presuppose the language, logic and what not. The requirement of the comprehensive rationalism is in fact a kind of contradictio in adjecto. Without saying, the argument itself is not anything other than the logical deduction from some assumptions. If we attempt to prove these assumptions, we cannot fail to introduce new assumptions containing the previous assumptions as their consequences, insofar as we try to evade the logical circulation. Otherwise it will inevitably lead to an infinite regression.

How can we solve this difficulty? Surely the comprehensive rationalism cannot settle it. Popper has already concluded, as we have seen, that it is impossible to justify the comprehensive rationalism according to its own requirement. Therefore he asserted:

Whoever adopts the rationalist attitude does so because he has adopted, consciously or unconsciously, some proposal, or decision, or belief, or behavior; 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.* (231)

Popper plainly admits that rationalism is based upon faith in reason and that this faith is in its turn irrational because it has no reason any more. He cannot deny a fact that rationalism cannot blow away its own irrational element. In other words, rationalism cannot be comprehensive. Popper thought that the comprehensive rationalism overlooked this important point. As a consequence, as soon as the irrationalists point out the limit of the comprehensive rationality by making use of argument, the comprehensive rationalism gets defeated by its own chosen weapon, argument.

2. Problematics of popper's critical rationalism

I suppose there are many people who doubt Popper's presumption that the irrationalists do use arguments. So it is good for me to make some remarks on the irrationalists depicted by Popper. The irrationalism is, for Popper, a position that does not commit to any argument and even worse to logic. The irrationalists are entirely free to reject the argument in general or in particular, according to him. They use argument only if they think that it is useful or advantageous for them to do so, but if they do not think so then they refuse any argument. They make use of argument, for example, to combat against rationalists only insofar as the rationalists admit the importance of arguments and think indispensable. But they do refuse any argument provided that they are forced to discard at least one of their irrational positions by arguments themselves. The fact that they neither pay any respect for the argument nor take care a bit for logical contradictions makes them in fact irrationalists.

Popper's critical rationalism in its original form openly recognizes a fact that the rationalism cannot be based upon reason, and at the same time a fact that "the fundamental rationalist attitude is based upon an irrational decision, or upon faith in reason.

Popper thinks that we are free to choose either the critical rationalism or the irrationalism. In addition to this, he considers this choice as a moral us to adopt the critical rationalism and to reject the irrationalism. His argument was simple. He compared in details the consequences resulting from an adoption of irrationalism with the ones resulting from an adoption of critical rationalism, and showed many evils of the irrationalism and equally many merits of critical rationalism. On the ground of these comparisons he recommended us to adopt critical rationalism.

This argument seems me to persuade nobody except those who have already accepted rationalism and are prepared to listen to arguments. Only those people who have in advance the same faith in reason as Popper can accept his argument. His argument is not able to persuade irrationalists to listen to his argument because they have different faith. As a result, Popper cannot justify his own critical rationalism, just as the comprehensive rationalism cannot justify its own rationalism by its own arguments. Popper's critical rationalism is fideistic or decisionistic in its character.

Although Popper is very frank and candid in recognizing the limit of his critical rationalism, it is clear that he cannot prohibit others to adopt different faith from his faith in reason. Popper cannot criticize them on the reason that they adopt other positions than his. He cannot help admitting their freedom of choice, even their adoption of irrationalism. There possibly appears a world of relativism.

3. Nonjustificational critical rationalism

To tell the truth, it was noticed in 1960s that there was a principal difficulty precisely in the kernel of Popper's critical rationalism. It was W. W. Bartley, a student of Popper, who made this difficulty open to our eyes and made an audacious attempt to eliminate it completely. In the following I will try to show briefly the outline of his attempt.

Bartley thought that Popper made unnecessarily a "minimum concession to irrationalism" (232), because of his outspoken recognition that an argumentative justification of critical rationalism is obviously impossible. But Bartley also thought that Popper's analysis was not based upon the exact analysis of the situation that brought about this difficulty. He clearly envisaged a kind of confusion in Popper's analysis. According to Bartley, Popper's misunderstanding of the situation consists in his unwarrantable identification of the rationality with the justifiability. Hence Popper could not see another possibility of the rationality which originates from a natural expansion of his own falsificationism.

Before going to a further exposition of Bartley's argument, it is convenient to introduce a new term, justificationism. It is a name for the position that equates rationality with justifiability. In this perspective Popper's critical rationalism is a miscarried version of justificationism. Bartley thought that all the difficulty lies in justificationism.

It is not difficult to see that justificationism leads to an invincible predicament. In order to justify a position, we need a justificational reason, but this reason in its turn requires further a new justificational reason which gives a new justificational reason to that reason. Therefore there arises logically an infinite regression of justification. We can read a following passage in the *Outlines of Pyrrhonism*.

...the man who says that something true exists will not be believed without proof, on account of the controversy; and if he wishes to offer proof, he will be disbelieved if he acknowledges that his proof is false, whereas if he declares that his proof is true he becomes involved in circular reasoning and will be required to show proof of the real truth of his proof, and another proof of that proof, and so on ad infinitum ... (Sextus Empiricus, 1933-1949: 205).

Second predicament is this. If reason A is based upon reason B but B is justified by A, then there is a vicious circle of justification. Descartes once said in his *Meditations*:

It is of course quite true that we must believe in the existence of God because it is a doctrine of Holy Scripture, and conversely, that we must believe Holy Scripture it comes from God. (Descartes 1984 3)

Third predicament is this. An arbitrary interruption, i.e., suddenly breakingoff of justification cannot provide any justification. In this case, nobody will admit that the positions or statements in question have been justified because the justificationism always demands to give further justificational reasons. As an example of an arbitrary interruption I may show a passage from Walter Lippmann: "And if you ask why the test of evidence is preferable to any other, there is no answer unless you are willing to use the test in order to test it" (Lippmann 1922 123).

It is rather well known that H. Albert, a German critical rationalist called this predicament the Muenchhausen Trilemma. Bartley thought that Popper's critical rationalism is a result of an arbitrary interruption (breakingoff) of justification of the rationalism. Popper unconsciously presupposed that the rationalism requires justification but at the same time he clearly took an insight of its logical impossibility. This impossibility compelled him to make a "minimum concession to irrationalism which I [Popper] have termed 'critical rationalism'" (Popper 1966 232).

However, there is another way to come out of this predicament. If a justificational procedure inevitably leads to the Muenchhausen Trilemma, then there is a possibility to ascribe the cause of this predicament to the justificationism itself. Although justificationists firmly believe in the feasibility of justification, it is simply impossible to execute this procedure to its end because of its logical impossibility (Trilemma). But this error was commonly committed both in the rationalism and in the comprehensive rationalism. The justifiability was mistakenly confused with the rationality itself. As soon as Bartley envisaged this point, he proposed to discard all the justificational elements from the rationalism, especially from critical rationalism. But how did he accomplish it? After having blown away the justificational elements, what does there remain?

He introduced an idea of the nonjustificational criticism on the basis of the sharp distinction between the justification and the criticism.

In order to explain his idea it is good firstly to take up a case where this distinction disappears. What does happen in such a case? Suppose that A criticizes B's assertion. A's criticism of it necessarily invites B to ask the reason why A criticizes B. Further, we may safely suppose that B is permitted to criticize A's reason. But B's criticism in its turn invites A to ask the reason on which B criticized A's reason.

They will go on criticizing each other unless they make a compromise or get a mutual consensus. Rather, it is hopeless for them to stop giving criticism each other, since they strongly want to prove rightness of their own position by a justificational procedure. Their mutual criticism easily leads them to confront the Muenchhausen Trilemma of the infinite regression, vicious circle and interruption of the justification, since they are, consciously or unconsciously, under the sway of justificationism.

Suppose they reached at a stage where neither A nor B can justify his own criticism, that is, neither can present a further justificational reason of his own criticism. If the one blames the other for the lack of a reason to justify his criticism, the other will behave himself in the same way. This constitutes the so-called *tu quoque* argument.

This situation might lead them to adopt relativism on their mutual insight that both sides cannot justify their own final reason; namely, neither can do anything other than a breakingoff of justification. This means that a person who started off as a rationalist ends up as an irrationalist just through his own "rational" way of thinking. I think that this finally leads to the struggle of Gods in the sense of Max Weber, a famous German sociologist.

Weber argued in his *Wissenschaft als Beruf* (*Learning as Calling*) that each one has his own value (system of values or order of values) and at the same time he cannot give a justificational reason to his own value

and therefore he cannot fail to believe intellectually absurdity i.e., unjustifiable reason. He supports his position on Tertullianus's famous sentence: credo quia absurdum (I believe it because of its absurdity). He asserted that this situation can lead to the struggle of Gods (each one's final value), in a simple word, religious wars. I think we should realize that justificationism might bring about a dreadful disaster as one of its consequences.

Now, it is high time to explain the idea of nonjustificational criticism in terms of the logical relationship of statements. Statements are vehicles of assertions, opinions, positions, views, theories, and so on. Each statement is in some logical relation to one another. For example, the statement that snow is white is not compatible with the statement that snow is black at the same time and place. If the one is true, then its negation is false. They constitute always some kinds of logical relation. Sometimes we can easily find the incompatible relations between statements. Bartley thought that the criticism largely consists of pointing out the incompatible relation between statements (in the world 3).

In this type of criticism it does not matter who, well known or unknown, criticizes statements or theories, though the names of successful critics are indexes by which we are in thanks able to remember the incompatibility relationships. In this concept of criticism it is also not a matter which side of incompatible relation is correct. Saying again, the nonjustificational criticism is for Bartley no other than mere pointing out of the incompatible relation between statements.

Here we should notice that it is very easy in principle to point out for any statement a statement that stands in incompatible relation to that statement. The simplest way to do this is to make a denial of the statement in question.

Therefore there appears no natural end of this nonjustificational criticism. This means that every statement is in principle criticizable. No statement can be exempt from criticism. There is no statement which stands on the firm and immovable ground that nobody can find a means to revise by means of criticism.

On the contrary, justificationists believe that there must be a privileged and uncriticizable statement upon which a justified intellectual edifice should be built up. They do not realize that the so-called uncriticizable foundation for justification is no other than an illusion, just as the Archimedian fulcrum of the lever by which, it is said, Archimedes considered himself to move the earth.

However, once the nonjustificational criticism has been separated from the justificationism, we can safely discard the latter without being intellectually injured. Of course, in our critical discussion we sometimes put a stop in our mutual criticism because we think that we have gotten a consensus or a realization that there is no utility in continuing our discussion because of insufficiency of our time and money. This does not mean that we have acquired a final base which can give a justificational basis to our position. Our stopping point is always tentative and open to criticism.

There remains us an idea of nonjustificational criticism. An abandonment of justificationism leads neither to Trilemma, nor to decisionistic relativism because everything is open to criticism. On the other hand, we can go on discussing any problem, statement or position by using nonjustificational criticism because there is no natural end in our pointing out of the incompatibility relation between statements.

There is no space for justificationistic relativism that mocks the idea of the mutual criticism. Instead of relativism, the nonjustificational criticism gives rise to critical pluralism that encourages the mutual criticism as a driving force for the growth of knowledge. It is a good tool for searching truths. Therefore Bartley recommended us to discard the justificationism completely and to salvage the idea of nonjustificational criticism. Now we can see more clearly two kinds of rationality than before.

RATIONALITY	
Justifiability	should be discarded (nonjustificational)
Criticizability	should be kept on

Now let's remember Popper's "minimum concession to irrationalism." What does it look alike in our newly acquired perspective of nonjustificationism? We can retrospectively envisage that the impossibility of the justification of the critical rationalism led Popper to his concession. However, after the justificationism has been completely abandoned, how does our problem situation look alike? We can say safely, Popper's concession is unnecessary because the justificationism is only an illusion and every statement is criticizable. Our choice does not lie in the alternative between the comprehensive rationalism and the critical rationalism, but in the alternative between the justificationism and the nonjustificationism. In Popper's original argument these two kinds of choice were mixed and interfused.

However, we should not forget a fact that Popper rightly apprehended the rationality as the critical attitude.

Also I think it is my duty to remind you of a fact that Popper does not base his falsificationism upon an uncriticizable adoption of basic statements in his *Logik der Forschung (The Logic of Scientific Discovery)*. In his falsificationism theories and basic statements are in principle mutually criticizable, so there is no fixed and immovable foundation to support a justificationistic tendency. To support my assertion I may quote a passage from *The Logic of Scientific Discovery*.

> Every test of a theory, whether resulting in its corroboration or falsification, must stop at some basic statement or other which we *decide to accept*. If we do not come to any decision, and do not accept some basic statement or other, then the test will have led nowhere. But considered from a logical point of view, the situation is never such that it compels us to stop at this particular basic statement rather than at that, or else give up the test altogether. For any basic statement can again in its turn be subjected to tests, using as a touchstone any of the basic statements which can be deduced from it with the help of some theory, either the one under test, or another. This procedure has no natural end. Thus if the test is to lead us anywhere, nothing remains but to stop at some point or other and say that we are satisfied, for the time being. (Popper 1959 104)

Therefore I think that Bartley's version of critical rationalism is only a natural expansion or clarification of Popper's nonjustificational falsificationism (fallibilism). It seems to me that the brutality and severity of his wartime might have produced his decisionistic tendency in *The Open Society and its Enemies*, which was written during the World War II.

Let's return to the main line of my argument and sum up shortly the reasons why we should discard the justificationism. First it cannot justify itself despite its own requirement that the reasonable position should be justified, while the nonjustificationism does not have such a requirement. Secondly the justificational procedure is not feasible because of its inevitability of the logical predicament such as Trilemma. Thirdly to throw the justificationism into the discard brings about no harm to our critical discussion and rather contributes to its advancement. The nonjustificational critical rationalism can open a new horizon where the growth of knowledge is able to be facilitated.

Once the justificationism has been discarded thoroughly, the problem whether critical rationalism can be justified disappears completely. Since every statement or position is criticizable and tentative, we are in principle qualified to criticize those who made different choice than Popper's. "Credo quia absurdum" is not a final word.

Now the problem has shifted to the new problem whether the nonjustificational critical rationalism survives severe criticism (examination). But this problem is still an open question, to my knowledge. Insofar as it is not refuted, we will be able to hold it.

4. Upward rationality

Instead of examining the academic problem whether the nonjustificational critical rationalism has success or failure, here it is good for us to depict its image in our ordinary life. By working on this task we may hope to contribute to a better understanding of the nonjustificational critical rationalism.

In our daily life we often use unconsciously an invalid inference, i.e., a fallacy of affirming the consequent. Suppose that someone said that he could deduce from his premises some prophecies and that those prophecies were successful therefore his own premises are valid or correct or justified. This type of arguments is clearly invalid. Why do people sometimes use such invalid arguments?

I guess that they are under the strong sway of justificationism, in other words, that they are compelled unconsciously to justify their position even using an invalid inference. Justificationism compels them to apotheosize the rightness of their premises absolutely because it always asks for affirmative evidences in order to justify their own positions. This way of thinking is very neurotic. In order to reform their positions, there seems to be no room for them other than to throw away their premises as a whole. They do not know that there is another way of thinking.

On the contrary, the idea of nonjustificational criticism rests in reality on a model of falsificationism. An empirical falsification usually proceeds from the falsity of the consequences (for example, a failure of a prediction) to the falsity of the premises - a set of theories and initial conditions. This idea originally rests on the logical principle of the retransmissibility of falsity. Without saying, this is a correct way of thinking.

This principle is expandable to the nonempirical fields of knowledge or to the normative fields. We may understand the falsifiability as part of the criticizability. If consequences are criticizable then the premises are also criticizable insofar as the logical deduction is valid. If we find some errors in the consequences, we may infer that there must be at least one error in the premises. By this way we can have a chance to improve our premises one by one. This process proceeds from the consequences (bottom) to the presuppositions in upward way.

Here let's remember that the premises constitute the foundation from which one can begin to justify the consequences. A logical deduction is a kind of justification. If presuppositions are true, valid, empirical, highly provable, reliable and so on, then the consequences must have also the same qualities. The logical deduction transmits the qualities of the assumptions (or foundations) to their consequences. This is a downward rationalization (justification) or simply a downward rationality. However, this type of rationality is indeed problematic and even erroneous.

For if the foundation is wrong, then some consequences are right and some are wrong. For example, if whale is fish (wrong premise) then we can in a logically correct way deduce a consequence that whale has fin (right consequence) on one hand and also a consequence that whale has gill (wrong consequence) on other hand. Downward rationalization (justificationism) cannot warrant the rightness of the consequences unless the foundations (premises) are right. But whenever one tries to prove the rightness of the foundations (premises) in a justificationistic way, one cannot fail to be involved in the Trilemma, as we have seen. The downward rationality cannot exclude errors. On the contrary, the falsifiability or criticizability shows clearly a quality of the upward rationality. It proceeds only from the invalidity (falsity) of the consequences (bottom) to the invalidity (falsity) of the premises (or foundations), not vice versa. Its aim is to remove the deficiencies. According to the upward rationality it is in fact rational to criticize the foundation which justificationism supposes to be privileged and immune from any criticism.

I believe we can more explicitly comprehend the difference between the downward rationality and the upward rationality in the context of our ordinary administrative or political context. Take an example. In our daily life we sometimes encounter the troubles or insufficiencies or evils brought about by a certain regulation. Of course we do criticize that regulation by referring to those troubles or insufficiencies or evils.

But against our criticism the bureaucratic authorities usually mention some laws that can give a justification to that regulation. And when we point out the problematic effects (consequences) of such laws, they try to justify these laws by appealing to the majority of the parliament.

The authorities in most cases try to justify the concrete execution by an appeal to the upper enactment and try to close their eyes to the erroneous effects. Consequently, they are inclined to avoid a careful examination of the concrete effects which an execution of policies might have brought about. They are also inclined to refrain from amending the laws to which social evils should be ascribed. For they only seek to acquire the justificational affirmative evidence as justificationists and do not know that there is another way of thinking other than downward rationality. This is a disaster that justificationism brings about.

The authorities and bureaucrats are largely under the sway of the downward rationality and love a reductionistic way of thinking. And if the downward rationality is firmly believed to be the one and only rationality in our world, as justificationists sometimes assert, then it is extremely difficult for almost all people to emancipate themselves from the harmful justificationism intending to avoid a careful examination of the concrete effects of policies. Even worse they are inclined to consider criticism as irrational act rightly from their own viewpoint of justificationistic rationality because it has a tendency to permit only affirmative evidences. They presuppose that it is simply irrational and at open defiance to point out the errors and to criticize the authorities. However, in the perspective of the nonjustificational critical rationalism it is an illusionary reductionistic way of thinking itself that is irrational and should be accused of. If we remember that the one and only rationality is the upward rationality, we can safely say that it is indeed rational to point out the errors and to criticize the upper authorities in question. Of course the reason on which citizens or common people rely in their acts of criticizing the consequences that a regulation brought about is itself neither ultimate nor exempt from criticism. Therefore there are a lot of possibilities that the criticizing citizens are themselves erroneous. There is no privileged final reason (scaffolding) anywhere. It is simply rational to eliminate the errors and evils directly. It is the upward rationality that truly activates our political sphere.

When we comprehend Popper's critical rationalism from the viewpoint of nonjustificationism, it is plain that it greatly facilitates not only our civil and political activities but also our scientific activities of which I could not speak at all. In my opinion the nonjustificational critical rationalism embodies one of the most important and basic values in our civilization which has been historically cultivated in the West.

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