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The opposite methodological perspective: a non-dogmatic and novel approach

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Abstract

The topic to be discussed here puts in focus the counter-induction approach - the conditions, circumstances and incentives, which made Feyerabend to constitute it, and the enlightening role that it plays, respectively, should play. This opposite perspective *de jure* lacked science and *de facto* has always been implemented but as an illegitimate approach.

In the methodological aspect of scientific research, the dual role of the methodical rules will be considered, which also help the research to be successful and even turn it into a dogma by narrowing and limiting the search because of their exclusivity. Relatedly. the tensions, criticisms and methodological developments will be taken into account to make the research more efficient.

The aim is to show that counter-induction is met by a great deal of shortage in the methodological approach, which, as it will be argued, makes the research itself more open and removes its obstacles.

Keywords: *The rules of methodology, counter-inductive methods, Feyerabend, research, methodology.*

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This paper pivots on a discussion of the counter-induction approach, and aims at arguing that the implementation of this method has an essential non-dogmatic dimension and a creative power in the scientific research.

It is a well-known truism that scientific knowledge is impossible without the relevant instruments, i.e. without research methods. Such scientific instruments, i.e. different methods and techniques of research, give scientific character and depth to every knowledge. Their value lies in their rigor, defined by the rules according to which the scientists have to work. In this sense, the methodological rules are objective, and therefore valid for all users.

In spite of their benefits, in scientific practice, the use of scientific instruments also shows a negative dimension. While the negative dimension is latent, and therefore less expressively accentuated, the rigidity of methodical rules has its limitations. The rigor of the rules, which gives the methods their dogmatic character, has infrequently caused obstacles to the research. Moreover, none of them have given any suggestion on how to overcome those difficulties. Such considerations gave rise to sharp methodological debate (Karl Popper, 2002a; Thomas Kuhn, 1970; Paul Feyerabend, 1993; Imre Lakatos in Lakatos & Musgrave, 1970), enhancing understanding into how from the methodological viewpoint of geocentrism one should be allowed taking into account heliocentrism as well, or from the latter any other alternative.

It would be Paul Feyerabend who, in his masterpiece *Against Method* in 1975, synthesized all the philosophical and scientific examination of methodology: he made an assertion as no one before him, offering a theoretically unknown solution until then. His findings reslted in a collapse of confidence into the rules of the method. In fact, he also showed the validity as well as the legitimacy of the counter-rules (Feyerabend ,1993, p. 14).

The culminating idea after two decades' reflections on the subject (at least from his 1965th "Consolation for the Specialist" debating article (Lakatos & Musgrave, 1970, pp. 197-229) was the counter-induction.

This opposite methodological perspective provides an alternative approach to research which releases the rigidity of the methodological rules that narrow the scientific research providing only a given methodological action as scientifically valuable. Rather, the research activity becomes accessible without prejudice to any methodological rule. In this sense, it is methodologically equally legitimate in the scientific aspect working with a theory as with a hypothesis against it. This is a new approach to the scientific research, which throws away the methodological dogmatism and intolerance, making the scientific activity non-dogmatic, and thus rendering it with greater creative power.

The rigor of the rules: two sides of the coin

Each method has clearly defined rules that characterize a given approach and show how, the method should work and be used during a study. The methodological rules are rigorous, precise and exclusive. This is why their role is generally considered decisive for research just as Lekë Sokoli has rightly summed up, when stating that "Without scientific methods there is no scientific theory, so there is no scientific knowledge" (Sokoli, 2013, p. 43). Imre Lakatos went even further, pointing out that methodology and theory are melted into one, i.e. in the methodology of scientific research programs (Lakatos in Lakatos & Musgrave, 1970, pp. 132-138).

Less emphasized is the fact that the methodological rules have a double character. On the one side, the rules determine

what is allowed to be done, in other words how to proceed in order to arrive at a conclusion. Therefore, following the rules is indispensable as far as it is done according to a given method. For example, the rules determine the inductive approach in a different way than the deductive line of research. Likewise, the qualitative approach differs from quantitative insights. Also, the different rules are those that differentiate the methods from one another, i.e. their approaches. For example, it is known that the rules of the inductive method determine that the research starts from observations of individual cases, of which a general conclusion has to be reached (Rothchild, 2006, p. 2); whereas the rules of the deductive method define an opposite approach, that from an accepted premise. and accordingly, has to be derived from the hypotheses that predicts specific data. Based on empirical findings, the hypothesis is subsequently either confirmed or rejected (Rothchild, 2006, p. 3). It is the rules that define and distinguish the qualitative and quantitative method (Cresswell, 2003, pp. 84-102), as well as the scope extended to their research, i.e., to understand in depth, or to understand in magnitude.

Thus, the rules of the method show clearly what needs to be done according to their respective instructions. Their rigorous implementation makes the research substantiated, giving it an investigative character as claimed by the respective approach. The investigative character encompasses different ranges of research including the inductive type, or research of a deductive, qualitative or quantitative research nature. The usefulness of the research methodology is that it specifies how to achieve the predicted evidence, rendering the research focused, persistent, and usually successful. However, the other side of the coin is that since the rigorous application of the methodical rules is required, the research becomes narrow and limited, assigning it with a somewhat dogmatic character.

The dogmatic character derives from the rules of the method according to which only the empirical data obtainable from the defined methodological search action are acceptable. Findings that are not the result of the fulfillment of those rules are considered as meaningless data, and correspondingly, they are deemed lacking scientific weight, and therefore, discarded or ignored. For example, in inductive research, only specific evidence that is similar is required to enable arriving at a scientifically found conclusion (Papineau, 2005, p. 4), and anything that conflicts or is not alike has to be dismissed as not in alignment with the concept. The deductive research, which concerns a hypothesis drafted from the premise seeks to find only data predicted by the hypothesis; and, as Popper (2002a) emphasized, if the findings are compatible the hypothesis will (temporarily) be confirmed. In turn, however, if the findings are contrary to the predictions - then the hypothesis will be falsified (Popper, 2002a, pp. 55-56, 57- 73). Furthermore, conflicting findings and the missing of predicted data that may prove a hypothesis wrong may render the risk of remaining out of the methodological attention. The same can be said concerning the quantitative and qualitative research division. While in qualitative research, the purpose and scope of the research concerns an in-depth understanding based on case studies, where the numerical magnitude of the study is set outside the researchers' field of interest. In contrast to the qualitative approach, the quantitative research involves an understanding of the magnitude of the research object (Creswell, 2003, p. 84-102) without placing decisive weight on particular cases.

However, the scientific practice has undoubtedly proven that the application of the roles of the method in particular cases is usually scientifically useful as it puts empirical evidence needed in the focus of a specific research. Such examples are the discovery of the Higgs boson (Abazi, 2018, p.

58), and the confirmation of the gravitational waves (Abazi, 2018, pp. 59-60), which took several decades. Examples like these show that persistence and the consistency of the approach is, of course, what gives value to the rules of the method. However, scientific practice has also witnessed that during the research scholars are often met with findings (hypothesis and data) that are far from consistent with the empirical focus, and, in spite of this reality, none of the methods (until the counter-induction was formed) gives any suggestion of what to do with those findings. Rather, they are simply considered and treated a priori as useless and non-scientific. This methodological behavior as determined by the rules of the method becomes latently dogmatic, as it considers other alternative approaches illegitimate, and therefore not scientific, conversely causing stagnation in the research.

Criticism of methods

The rigidity of the methodical rules as an obstacle has been understood by various philosophers as well as scientists, who have put it under the anvil of criticism. While at times alternately criticized or in more moderate terms by various scholars, serious problems have been consistently uncovered. All critics of any method have advocated some other method, and thus put forward from their given methodological position. The first to address the issue beyond a definite methodological stance were Thomas Kuhn and Paul Feyerabend.

Though the trajectory of the criticisms to methods goes through centuries in history, in the current paper, the contemporary debate will be primarily considered, a debate which sometimes escalated to argue for any method as a non-scientific approach, as Karl Popper did in his famous *The Logic*

of Scientific Discovery in 1935, in which he argues against the inductive method (Popper, 2002a, pp. 3-17). When logical positivism was at its height in the 1930s, the inductive method was almost identified - if not entirely - as the main scientific method in the natural disciplines; at such frequencies were most philosophers of science among whom Moritz Schlick, Otto Neurath, Hans Han, Rudolf Carnap to name a few. Only Karl Popper had another point of view, strongly criticizing the logical positivism's approach (Popper, 2002a, pp. 3-17, 248-268 when arriving at the conclusion that induction results either "[…] in endless regression, or in the doctrine of *apriorism*! (p. 6).

Popper did not leave, of course, the science without method. His powerful advocacy was for the deductive approach (Popper, 2002a, p. 10), which, as he believed, was the only true scientific method (ibid.). This method, however, would be hit in the heart by Bertrand Russell. Speaking of the Euclid *Elements*, calling it one of the greatest books ever written and one of the most perfect monuments of the Greek intellect, he expresses a very sharp critique. According to Russell, the great work of Euclid "has, of course, the typical Greek limitations: the method is purely deductive, and there is no way, within it, of testing the initial assumptions" (Russell, 2003, p. 221), since such assumptions, being considered as the main premises, i.e. as true theories, were considered to be unquestionable. What Russell wanted to say is this: As the testing of specific propositions was based on the essential assumptions of the theory, the fault stems from the fact that these essential assumptions, although taken as true, might be wrong, as, for example, in the 19th century, it was shown that the initial assumptions of Euclid's work could have been wrong and that only observations could decide whether they were so (ibid.) This appropriate criticism of Russell has been supported throughout the history of science: from around the third century BC, most philosophers and

scientists of astronomy considered the essential assumption of geocentric theory on earth as the center of the universe as true, and accordingly, astronomers had been led through centuries in their scientific work by that "initial assumption", which was shown to be erroneous. Another example can be found in the social sciences: The essential assumption of socialism was the claim for social justice as the equality of well-being of all citizens, which has been shown to be erroneous too (now it is known that after many decades of the "experimentation" - in Russia and elsewhere - the social reality in the former socialist countries showed the contrary: social injustice and inequalities in well-being had grown and deepened, with the consequence that the workers and peasants were depleted into slave labor, while the bureaucratic and technocratic classes and party caste were enriched and transformed into rulers).

Despite the mutual criticisms of philosophers who considered one method as being most scientific than the other, whether concerning the inductive or the deductive method likewise in terms of quantitative and qualitative approaches or any other method, scientific experience, as Steven Eric Krauss (2005) suggests, showed that no method is more scientific than the other (Krauss, 2005, pp. 758-761). This perception is widespread: Despite the plurality of methods, the methods employed by the researchers are many and varied, as underlined in the Routledge Encyclopedia of Philosophy, where it is stated that all are scientific methods (REP, 1998, pp. 7769-7773).

Criticism of the diverse methods has yielded fruitful benefits to science. As Krauss (2005) emphasizes, the criticisms have led to improvements that made it possible for the best understanding of each mode of research and the possibilities of their mixing (Krauss, 2005, pp. 761-762). In social sciences, limitations and the insufficiency of the qualitative or

quantitative method as exclusive research approaches has given rise for a need for their combination, which has resulted in the widespread use of the mixed-method approach, which is hitherto considered as a "legitimate alternative" even in the field of medicine, where it is increasingly gaining popularity (Doyle, Brady & Bryne, 2009, pp. 175-185). The use of the mixed method developed in the mid-twentieth century, and has been broadly in use since 1980 (McKim, 2017, p. 202). And according to the same author, the mixed method is now used by well-known scholars like Creswell, JW (2003), Creswell, JW, & Plano Clark, VL (2007), Dunning, H., Williams, A., Abonyi, S. & Crooks, V. (2008) etc.

Once the methodical rules are constituted, they are modified with difficulty in a long, complex process presented with arguments and counter-arguments and coupled with philosophical tensions. An example is the debate that has caused the problem of the induction: It became a challenge to find any solution and to overcome it. Some of the main efforts of this enterprise are presented in Papineau's *Methodology* (2005, pp. 8-13), which sets out with the solution Popper claimed by eliminating the induction itself as a method and its alternative through the deductive testing in the scientific research. Subsequently, the new problem of Goodman's induction as an issue of distinguishing "projectable" predicates (those that are rooted in practices used by the human community to produce inductive conclusions in the past) from "non-projectable" (Papineau, 2005, pp. 19-22) is discussed. On this basis, Papineau (2005, pp. 13-19, 60-72) pleads for the inductive approach, expanding and explaining some aspects, while arguing that this method is useful in scientific research. Similar criticisms for and against the inductive and deductive approach can be found in many reviews (Rotchild, 2006; Medewar, 1996; Popper, 2002a; Ayer, 1971).

Unlike the above criticisms with regards to criticizing the rigor and strict character of the methodical rules, Thomas Kuhn has presented us with another point of view, namely that there are no criteria in the sense of the rules of any method or methodology to be of universal validity in order to determine the status of a theory beforehand (Kuhn in Lakatos & Musgrave, 1970, pp. 19, 237). This was argued by the fact that there was no methodological rule to be more valid than the following theory: "Paradigms may be prior to, more binding, and more complete than any set of rules for research that could be unequivocally abstracted from them" (Kuhn, 1970, p. 46). In this regard, Feyerabend (1993) went on further by pointing out that "all methodologies, even the most obvious ones, have their limits" (Feyerabend, 1993, p. 23).

Attempts to find suitable research rules

Driven by the scientific practice and the difficulties caused by the rules of the methods scientists and philosophers have continuously detected obstacles regarded the methodical rules, and thus have understood the need to extend the approach and partially change it. These enterprises express the effort to find suitable rules for research in attempts at overcoming their limitations and avoid stagnation.

Many centuries ago, Francis Bacon made such an examination. At the time when the inductive method was at its peak as a scientific approach, Bacon had already stressed in his *Novum Organum* published in 1620, that by targeting only positive instances as the approach was deficient. According to Milton, Bacon had realized that, to work according to the claim, the inductive approach could have benefits from both instances, the positive as well as the negative ones (Milton, 1998, p. 766;

Bacon, 1902, p. 130). This is why Bacon found out that, in order not to remain isolated in the conceptual framework, two rules should be applied by the researcher: (i) to la[y] aside received opinions and notions; and (ii) to restrain […] from the generalizations (Bacon, 1902, i, pp. 106-107).

This contribution was not the only one, nor an isolated work. On the contrary. The sciences guided by rigorous methodical rules constantly encounter hypotheses or data that cannot be accommodated in the theoretical framework like paradigm. Findings impossible to become naturally integrated parts of the theoretical framework are called anomalies (Kuhn, 1970, p. 52; Lakatos. 1989, p. 53; Feyerabend, 1993, pp. 11-12), and that is why they remain beyond research considerations.

Understanding the limitations of the rules, different philosophers of science and scientists attempted to find a more open, non-dogmatic approach that would methodologically make the research more efficient. The logical positivists from the standpoint of verification rules, conceived as anomalous certain claims in science, like the "meaningless assertions" and the metaphysical assertions that were considered empty (Ayer, 1959, p. 145). According to logical positivists, metaphysical assertions did not refer to anything in reality, which is why such non-scientific or pseudo-scientific claims had to be cleansed from the science courtyard, so that scientists could work only with empirical predictions. With all good intentions, if scientists would strictly apply the methodical rules of the logical positivists as set against the metaphysical assertions, the result would be quite the opposite. If all the claims not referred to in empirical reality had to be eliminated, then the methodological rules of the logical positivists themselves should be eliminated too as "meaningless assertions", and resultantly, as rightly claimed Karl Popper (2002a), the result would be the elimination of science itself (Popper, 2002a, p. 14).

To solve the methodological problem brought by the logical positivists, Karl Popper (2002b) introduced another approach believed by him to be compatible with the scientific practice. The methodical rules constructed were much more liberal as no assertion should be prejudiced in advance. The methodological rules defined the testing of the theories, which had to be twofold: On the one hand, a theory must face another theory, and on the other, each of theories had to face the empirical evidence. The status of each theory in the end had to be determined by the result of the experiment. To sum it up, Popper points out that the methodological goal of scientists had to be finding and eliminating false theories (Popper, 2002b, pp. 19, 66-67).

Popper's (2002b) falsifications methodology seems to clean the yard of science from deceptive theoretical fruits, which on the surface seemed to be true but were in fact not. Such rules would, in fact, have the contrary effect, which Thomas Kuhn argued already in his well-known *The Structure of Scientific Revolutions* published in 1962. According to Kuhn, new theories have always less support in empirical evidence compared to the old theories. Hence, the methodological rules of falsification, as well as those of verification, and even the combined verification-falsification rules (Kuhn, 1970, pp. 146-147) would not methodologically provide the claimed results.

The debate of philosophers and scientists has always highlighted certain limitations of methodological rules and their negative effects. Their contributions, through critical approaches, aimed the opening of the way for changes in the rules of the methods, so that they became more suitable to the scientific practice. The hope to find suitable rules became a myth since after every correctional change, it became always obvious that the rules, however flexible, were deficient and had limitations. This was convincingly emphasized by Thomas

Kuhn (1970), who stated that there are no methodologies, rules or criteria to have universal validity, and that, as such, their validity was limited only to a given paradigm. He even pointed out that compared to every rules or criteria it is the paradigm which has the priority (Kuhn, 1970, p. 46). Lakatos (1989) synthesizes this when constructing a methodology molded in theory, which in his view was seen as a scientific research program (which is like Kuhn's paradigm) with very tolerant criteria like that progressive-degenerative ones. In the end, however, he ascertained that his criteria are valid only post hoc (Lakatos, 1989, p. 112).

The trajectory of efforts in finding suitable rules and the continuing failure of any rule to be as alleged, made Paul Feyerabend (1993) to understand that no methodological rule can be entirely suitable for research. Consequently, he expressed the main deficiency to date, which could be seen from the opposite methodological perspective in order to assert the following conclusion:

> ... there is not a single rule however plausible, and however firmly grounded in epistemology that is not violated at some time or other. It becomes evident that such violations are not accidental events, they are not results of insufficient knowledge or of inattention which might have been avoided (Feyerabend, 1993, p.14).

The counter-induction - a new and different method

Feyerabend (1993) took lessons from the history of science in order to look at scientific research from the position of the counter-rules' perspective. The lesson was this:

[…] given any rule, however 'fundamental' or 'rational', there are always circumstances when it is advisable not only to ignore the rule but to adopt its opposite (Feyerabend, 1993, p. 14).

From this point of view, he formulated the principle of "everything goes" (Feyerabend, 1993, p. 19), upon which the counter-inductive approach is based (Feyerabend, 1993, p. 20).

Feyerabend (1993) had realized that the lack of the opposite perspective had almost exhausted scientific research, narrowing it down and shrinking i, so that the dominant rules had to be broken once, to make the finding of the solution possible. The scientific research had to be methodologically released, which could be done according to Feyerabend (1993) by legitimizing the approach contrary to the rules or according to the counter-rules. This is his contribution to the science: the counter-induction. This method would make the methodological approach open and science would become more effective in the research of reality, as the search for knowledge would not be confined exclusively to the eliminatory rules. Rather, everything could be put into the focus of science as worthy of research if a team of scientists would see it as good as possible.

Then, how does one work with the methodological novelty Feyerabend (1993) brought?

The counter-induction, as its name suggests, is an approach that legitimizes any scientific claim, however contradictory to the dominant theory. It suggests, on the one hand, "the counterrule that urges us to develop hypotheses inconsistent with accepted and highly confirmed theories", and, on the other, "the counterrule that urges us to develop hypotheses inconsistent with well-established facts" (Feyerabend, 1993, p. 20).

While each method requires creating hypotheses that do not conflict with well-confirmed theories and develop hypotheses

that do not conflict with well-established facts, the method of Feyerabend seeks the opposite. In other words, if there are hypotheses that conflict with accepted theories or scientific facts, counter-induction suggests not eliminating them but turning the focus back on them; in the absence of opposing hypotheses, it suggests to induce them.

To acquire a better understanding, let us remember that, for example, according to the rules, inductive research requires completely similar data that form a certain class, in which nothing can be inserted except the class members assigned by definition. This is the typical mode of action by the inductive approach, and this cannot be changed, as long conclusion through induction is desired. This, in essence, also occurs with the deductive approach, according to which are acceptable only the specific cases compatible with its essential premise (theory, law), while other cases are eliminated. The same applies to the quantitative and qualitative approaches, as well as all other methods, which must follow specific rules to maintain the research as characterized by their nature. In contrast to all methods, the counter-induction method has its own focus on what is distinguishable and different; that which contradicts the rules under which a research is made; that which cannot be included in the conceptual framework of the methodological strict and eliminating rules, the one that is opposed to them.

Thus, by founding the counter-inductive approach as a methodological rule, Feyerabend (1993) has contributed to preventing scientists from falling into dogmatic frameworks of rigidity of methodical rules that make them ignore, disregard or consider absurd hypothesis or empirical evidence because they are excluded by methodological rules. In this sense, the outcome of counter-induction is that the science becomes more open and looser in the research of understanding the reality. That is why counter-induction is an alternative approach that

has emerged essentially from the stagnation of research, and as a consequence of applying the strict rules It is also put forward as an alternative to change the research course in a mild manner and with minimal consequences.

The counter-inductive approach does not forbid scientists from acting according to the methodical rules that research teams may consider appropriate and to be guided by them. On the contrary: if in order to develop a theory a counter-hypothesis would require the use of inductive or deductive approach for instance, that would be fine. The primary notion of a counter-inductive approach is the right to allow scientists to apply other rules in cases considered as suitable. It means allowing the possibility, without any consequence, to act against standard methodological concepts that allow consistent and compatible approaches while excluding and prohibiting every other approach. In other words, that was defines the counter-inductive research is the legitimacy of approaches contrary to the rules of the applied method, i.e. counter-action. The intention is restraining scientists from prejudices towards the exclusivity of some scientific instruments, to allow the use of any rule and method that could make fruitful the scientific research at arriving at empirical knowledge. In other words, counter-induction does not require the dominance, nor exclusivity as the only valid or most valuable in general. Rather, it requires legitimacy as a scientific instrument just like all other research methods that scientists can use when any other instrument does not give the expected result or prevents achieving a result. The counter-inductive approach can also, *in se*, be considered as valid in achieving knowledge of reality that cannot be done by any other method.

Then, it becomes obvious that only when we realize that not just a single method is applicable, but that each method without the exclusion of another, and including the counter-inductive

method, which enables fruitful research is of a scientific nature. In this sense, the use of just a certain methodology is not of decisive importance, but any methodological approach that enables successful inquiry when some other methodology does not make this possible. It is only by taking this into account, i.e. in such a context, that the above statement (Sokoli, 2013, p. 43) becomes meaningful: there is no scientific knowledge without a scientific method, whichever it is, which makes research successful.

Counter-induction as a methodologically alternative approach

To illustrate the functionality and openness of the counter-induction approach, Feyerabend (1993) has, discussed the Galileo Galileo's inquisition (Feyerabend, 1993, pp. 77-146). In Galileo's time, the dominant methodological rules of the geocentric astronomy prohibited any other approach. Because of the narrowness of the methodological rules, any hypothesis that conflicted with geocentrism was unacceptable, as well as any empirical findings that could not be accommodated through methodical rules with that astronomical reality. If hypotheses and findings were not legitimate, they were banned methodologically and were considered non-scientific. The geocentric methodology had produced knowledge of astronomy based on the geocentric vision, that is why it was forbidden to act otherwise than in accordance with its own rules. If the geocentric methodology was strictly implemented, it would oppose everything that is contradictory or inconsistent with it, and after attempts, if they did not get accommodated, they would be dismissed as incompatible.

The same can be said of social sciences, specifically following the earlier example of socialism. The methodological rules of socialism accepted only the hypotheses that were in line with the socialist order, as well as the empirical findings conform to the theoretical predictions of socialism. They reject any hypotheses that could not become suitable with socialist rules as well as any findings that undermine socialist predictions. Moreover, such findings would be treated as illegitimate because they were methodologically banned. The outcome would be soon known: after unsuccessful attempts to accommodate them, they would be methodologically termed as anomalies.

In either of above examples, traditionally there would be no other legitimacy except for the methodologically prevailing rules. They would, of course, not allow anything that would collide with them. Moreover, incompatible findings would be eliminated. The methodological rules are the guards that select what is acceptable and what is not. If strictly followed by the respective communities, then geocentric astronomy and socialism, though incompatible with reality, would remain eternal. Thus, such methodological rules become conservative and dogmatic, transforming a given scientific or social situation into an unaltered state.

Of course, getting out of this situation is possible. Feyerabend (1993) has shown that changes usually come through breaking existing rules (Feyerabend, 1993, p. 14). Realizing that such actions are indispensable historically, Feyerabend (1993) constituted counter-rule as an approach (Feyerabend, 1993, p. 20). The main principle is that at a time when the rules turn into inhibitors and become detrimental to the research, it would be advisable to act according to the counter-induction manner. Counter-induction is a methodical rule of the alternative approach, which means that if a rule

shrinks the cognitive research up to stagnation, then the alternative approach must be considered as legitimate and scientific.

Thus, accepting the counter-induction as integral to the existing scientific methodologies, methodological support to oppose any team of scientists who have alternative theories or who deal with the research of the predictions of any hypothesis that conflicts with the dominant paradigm would be reduced. The same extends to empirical findings that at first sight conflicts with facts or reality as it is known. These counter-inductive rules liberate science from the methodological limitations and turn the main focus on knowing the reality, respectively the epistemological aspect.

Conclusion

From the point of view posed above, it is seen that science has evolved even with regard to the methodological aspect of the research. Mainly from experience in scientific activity, it has become clear that all the rules of the methods at some particular moment of research have been shown to be rigid and have turned into important stumbling blocks in successful research by curbing the study. In this way, it was shown by few but important examples of natural and social sciences that the strict application of the methodical rules at any given moment may turn against the very nature of the research. We have clarified the fact that the strict application of the methodical rules compels following a certain knowing of reality, not allowing another possible knowing of reality as it indeed may actually be.

Applying the methodical rules with its consistency may causes from time to time a stagnation in the research due to the

latent dogmatism that compels compliance with the rules. Although many philosophers and scientists have contributed to liberalize the methodical rules, it was Paul Feyerabend (1993) who understood correctly the practical action of scientists, that is, how the stagnation of research had passed. This resulted in an unknown theoretical solution until then: counter-induction. Science supplemented with this method, which had thus far been lacking, constituted the whole methodical arsenal, and departed from the notion of research not becoming the prey of methodological frameworks. With Feyerabend's (1993) contribution, the alternative action of counter-induction has theoretically become legitimate. Science has taken away the methodical obstruction and has now become methodologically liberalized.

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