

# Feyerabend, Pluralism and Progress in Science in *Against Method* (1993) and *the Tyranny of Science* (2011)

Nyuykongi John Paul. PhD

Department of Educational Foundations, Faculty of Education, the University of Bamenda, Bamenda, Cameroon

## ABSTRACT

The epistemological problem associated with Karl Paul Feyerabend as a philosopher of Science resides beneath the fact that different critics of his works give diverse interpretations of them. His works and the accounts they present have no common structure. This plurality and conflictual interpretations of him makes it difficult, if not impossible to pin him to a particular tradition in the Philosophy of Science. For this reason, while some of his critics consider him to be a relativist, to some, he is a Dadaist, a confusionist and an anarchist, yet others think of Feyerabend as the worst enemy of Science. This diversity of interpretation of Feyerabend, in my opinion, only goes to reassure us of our reading of him. That is, Feyerabend is closely associated with pluralism than anything else. My aim, in this paper is thus propose a thesis and attempt a justification. The thesis is that; my reading of *Against Method*, (1993) and *The Tyranny of Science*, (2011), justifies the thesis above. This perspective, unlike the others, is more holistic and inclusive. Without agreeing with his points about science and its method, I contend that his pluralist claims in the philosophy of science are not hard to find. My examples stem, first, from the diversity of interpretations, and the conflicting views of his critics. Second, I consider the titles of the two works under consideration, to illustrate his criticism of the scientism and Methodism of Modern Science on the one hand, and his defence of plurality of methods and theories. Finally, I conclude that contrarily to critics who label him the worst enemy of science, anarchist or a confusionist, I think that, Feyerabend exaggerated his criticism of Modern Science and his defence of pluralism when he claimed to see no difference between science, myths and religion. However, I go further to contend that this comparison does not eclipse his pluralist position. It rather exaggerates it. That is why; I term him, an extreme pluralist to say the least.

**KEYWORDS:** Feyerabend, Pluralism, Science, Scientific Method, Scientific Progress

## INTRODUCTION

The name Karl Paul Feyerabend means different things to different persons. Critics of his works suggest diverse views as to what his position is vis-a-vis Science. Some refer to him as an anarchist, while others consider him to be a relativist, yet to some he is simply the worst enemy of science.<sup>1</sup> This diversity of answers is confirmed by Malolo Dissake who opines that the difficulty in interpreting Paul Feyerabend has caused so many to label him with names that rather add to the misunderstanding of his thought.<sup>2</sup> In the same vein, Eric Oberheim, considering the plurality of interpretations given to Feyerabend's works argue that, it is difficult if not impossible to place Feyerabend under a single tradition.<sup>3</sup> On the contrary, we find that Feyerabend has been

<sup>1</sup> See Theocharis, T., and M. Psimopoulos, M., 'Where Science Has Gone Wrong', 1987, Even a collection on papers on Feyerabend code named *The Worst Enemy of Science? Essays on the Philosophy of Feyerabend*, Munevar and Lamb, 2000.

<sup>2</sup> Malolo, E.D., *Feyerabend, Epistemology, Anarchism and the Free Society*, Paris, PUF., 2001, p. 7.

<sup>3</sup> Feyerabend, P.K., *The Tyranny of Science*, Edited and with introduction, by Eric Oberheim, Cambridge Polity Press, 2011, p., viii.

**How to cite this paper:** Nyuykongi John Paul "Feyerabend, Pluralism and Progress in Science in *Against Method* (1993) and *the Tyranny of Science* (2011)" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-4 | Issue-2, February 2020, pp.470-478, URL: www.ijtsrd.com/papers/ijtsrd30060.pdf



Copyright © 2019 by author(s) and International Journal of Trend in Scientific Research and Development Journal. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) (<http://creativecommons.org/licenses/by/4.0>)



misconstrued by many. A study of his works reveals that he is a Pluralist, to be precise, a methodological pluralist. Evidences of his pluralist position vis-à-vis science can be traced in his first and last major works, viz; *Against Method*, and *The Tyranny of Science*. What is more important is that, our reading reveals that, to Feyerabend, this pluralism is indispensable to progress in science. In fact, he argues in the opening paragraph of the first chapter of *Against Method* that the idea of a method that contains firm, unchanging, and absolutely binding principles for conducting the business of science meets considerable difficulty when we confront it, or put it at par with the results of historical research.<sup>4</sup> At this point, one poses the question; who is Karl Paul Feyerabend?

Paul Feyerabend was born in January 13<sup>th</sup> 1924 in Vienna Austria and died in February 11<sup>th</sup> 1994. His encounter with Karl Raymond Popper influenced his Doctoral thesis in which he attacked the very foundations of Positivism. From thence, he became too critical about scientific proceedings, rejected the dogmatic use of specific rules in the sciences and advocated for a pluralistic method in the practice of Science.

<sup>4</sup> Feyerabend, P.K., *Against Method*, London, Verso, 1993, p. 9.

What then do we mean by progress in Science or scientific progress? The term scientific progress, suggests two positions: progress with regards to the amelioration of the predictive efficiency of Science, and progress from the stand point of the quest for the addition of the number of truth available. In other words, progress here, is defined from how close science leads humanity to truth. This is because; from the teleological perspective, as advocated by the realists, scientific progress is an indication of an upward thrust towards a finality which is truth. Antithetically, the evolutionist perspective or the anti-realist position of scientific progress demonstrates an amelioration of the predictive efficiency of Science. This perspective looks at scientific progress from its effectiveness in attaining to the needs of humanity. While philosophers of modern science such as Descartes, Newton and Bacon have variously stated principles which must be respected to ensure scientific progress, Feyerabend on his part is categorical to the fact that Science is assured of progress only when scientific practice adopts a plurality of approaches.

Pluralism as an old term in philosophy has proponents in Ancient philosophy such as Empedocles, Anaxagoras, and the atomists, (Leucippus and Democritus). They maintained that, reality was made up of a multiplicity of entities. Adherents to this doctrine set them in opposition to the monism of the Eleatic school (Parmenides), which thought that reality was impermeable unity and unbroken solidarity.<sup>5</sup> In Epistemology or the Philosophy of Science, the pluralist ideology sees nature as many sided and thus cannot be studied from a single and universal position. This doctrine is opposed not only to monism, but also to dualism, and holds that it is impossible to reduce reality to one. Methodological pluralism, an approach typical of Feyerabend, is the position that there is no single and universal method applicable to the practice of science in all places and all epochs. By way of example, Feyerabend holds that scientific observations in different periods were fully theoretical according to radically incommensurable frameworks.<sup>6</sup>

It is important to state that the presupposition of methodological monism in the modern scientific method was affirmed successively by the Empiricists such as Bacon, the Rationalists such as Descartes, the Positivists such as Comte, and the neo Positivists (the inductivists of the Vienna Circle and the Popperian Deductivists on the other hand). The fundamental presupposition is the fact that science belongs to itself and that it constitutes a form of knowledge which is absolutely exceptional, conditioned by the strict respect of unique methodological norms which guarantee progress in science. The particularity of the critical reaction of Feyerabend secedes on his radicalism, which is controlled by methodological pluralism aimed at destroying the scientism of the modern scientific method without destroying science. That is why he claims that; "Science is essentially an anarchistic enterprise, theoretical anarchism is more humanitarian and more likely to encourage progress than its law-and-order alternatives."<sup>7</sup> This is because, History, even

<sup>5</sup> Audi, R., *The Cambridge Dictionary of Philosophy*, (1995), Cambridge, Cambridge University Press, Second Edition, 1999, p. 714.

<sup>6</sup> Bunnin, N., and Yu, J., *The Blackwell Dictionary of Philosophy*, (2004), Oxford, Blackwell Publishing, p. 254.

<sup>7</sup> Feyerabend, P.K., 1993, *Op. Cit.*, p. 9.

the history of science is always more varied and many sided. At this juncture I assert that this work justifies the claim that Feyerabend is a pluralist. I may, and do disagree with his somewhat extremist pluralist stance on Science and progress, but my opinion and that of others, I claim, only goes a long way to justify his pluralist stance. A historical study of his works attests to that fact. Second, it is aimed at arguing, with evidence especially from *Against Method* and *The Tyranny of Science*, that progress in science is directly proportional to the adoption of a pluralist approach towards the practice of science. At this juncture, the question is: How does pluralism positively influence progress in science as Feyerabend claims?

### **Feyerabend and Methodological Pluralism in *Against Method***

As mentioned in the introduction, *Against Method* is one of Paul Feyerabend's major works. In this work, Feyerabend is critical of the claims that science relies on fixed rules and principles to progress. That is, Feyerabend does not see how fixed and unchanging rules in the practice of science will advance the latter. Rather, this stifles progress. Also, the title of the book speaks for itself; *Against Method*. This title is interpreted to mean, arguments against the uniqueness and universality of the scientific method. In order words, this book presents arguments against methodological monism. By implication, he defends the contrary of methodological monism, that is, methodological pluralism. To term him a methodological pluralist is also, corroborative of his claim that: "this book [*Against Method*] proposes a thesis and draws consequences from it. The thesis is: the events, procedures and results that constitute the sciences have no common structure."<sup>8</sup> It should be noted that instead of 'science', Feyerabend uses 'sciences'. This means that, he does not see how one can talk of science in singular. To him, the sciences are plural, representing the plurality of nature. They have no common structure because reality, which is the object of Science, is viewed from diverse perspectives. For this reason, the idea of a fixed method, of a fixed theory of rationality, is a naïve one. It is the consequence of ignorance of the happenings in one's social surroundings. In line with this argument, Einstein's thinks that:

The external conditions, ... 'which are set for [the scientist] by the facts of experience to do not permit to let himself too much restricted in the construction of his conceptual world by the adherence to an epistemological system. He therefore, must appear to the systematic epistemologist as a type of unscrupulous opportunist..."<sup>9</sup>

The scientist, to Einstein, who wants to enhance progress must take advantage of every approach that presents itself, and not adhere to the law and other method of modern science. This is because, experience presents a variety of phenomena, and restricting one to strict rules hinders his or her adequate exploitation of these phenomena.

### **Pluralism Challenges and Science's Claims to Unity of Method**

Feyerabend is critical of claims to unity of the scientific method, the oneness of approach, and its claims to

<sup>8</sup> *Ibid.*, P.1.

<sup>9</sup> Einstein, A., *Philosopher Scientist* ed. P.A. Schilp. New York 1951, pp. 683ff.

universality. Contrarily to the positivist position of one universal theory of rationality, he opines that research is not successful because it obeyed fixed and unique principles. It is rather successful because researchers relied on one trick or the other, because they diversified their search approaches. This position, it must be noted, is antithetical to that of Lena Soler, who is emphatic on the unity and rationality of science, stating that concerning the general characteristics of science; science furnishes 'knowledge' on its object, scientific knowledge is based on objectively verifiable relations, scientific knowledge is considered to be universal, scientific knowledge is obtained thanks to a unique and determinate method, and finally that, it can be considered as the sum total of reliable knowledge.<sup>10</sup> This unity and universality of method is detrimental to progress because it discourages creation and initiatives. It is also detrimental because it forces scientists to act as robots, thereby dehumanizing humans. (To use the words of Feyerabend in *The Tyranny of Science*). They are conditioned to obey rules meanwhile nature; the subject matter of Science is diverse, plural or multi-dimensional. Feyerabend thus thinks that progress in science is conditioned not by relying on a unique method but on a multiplicity of methods.

Second, Feyerabend employs the pluralist stance as a challenge to the consistency condition. The first chapter of *Against Method* opens with an argument which epitomises the difficulty involved in doing science according to fixed principles. To him, scientific progress meets with considerable difficulty when plurality of methods is shoved aside. This, to him, is because nature is so diverse pluri-dimensional, be it sociologically or culturally and defining unchanging procedures to solving societal and scientific challenges is rather too dogmatic. That is why he argues that "there is no simple rule, however, plausible, and however firmly grounded in epistemology that is not violated at some time or another"<sup>11</sup> I understand with him that the violation of rules, recurrent in the sciences is not an accidental phenomenon. It is rather a means to an end. This end is progress in science.

In an attempt to elucidate his argument, Paul Feyerabend uses some examples in the history of science such as the invention of atomism in antiquity, the Copernican revolution, the rise of modern atomism (kinetic theory: dispersion theory: stereochemistry: quantum theory). He also mentions the gradual emergence of the wave theory of light, to say that, they occurred only because some thinkers decided to not be tied down by the status quo, by the prevailing rules of science but to think outside the box.<sup>12</sup> When they decided to give a deaf ear to calls for strict respect of rules and approach phenomena from a pluralist perspective. By implication, it is clear that Feyerabend thinks that progress in science is a direct consequence of adherence to pluralism.

In an attempt to drive home his pluralist approach to doing science, Paul Feyerabend poses two questions:

1. Is it desirable to live in accordance with the rules of critical rationalism?

<sup>10</sup> Soler, L., *Introduction à l'épistémologie*, Elipses, 2000, pp. 18-20.

<sup>11</sup> Einstein, A., 1951, *Op. Cit.*, pp. 683ff

<sup>12</sup> *Ibid.*

2. Is it possible to have both Science as we know it and these rules?<sup>13</sup>

His response to these interrogations is a representation of his position vis-a-vis the conditions for progress in science. To him; "such a procedure may satisfy a school master philosopher. This is because he or she looks at life through the spectacles of his or her own technical problems and recognizes hatred, love, happiness only to the extent to which they occur in these problems."<sup>14</sup> On the other hand, if human interest is taken into account, especially human freedom, (freedom from hunger, despair, and from the tyranny of complicated systems), we will come to realise that claims to the universality of method and the consistency condition miss the point. Particularly to the second question "... the answer ... is a resounding NO"<sup>15</sup> that is to say science does not and cannot progress with strict application of specific or unique rules or theories. The major question now is; how does Paul Feyerabend's methodological pluralism tackle the problem of the commensurability of new theories to older theories?

### Pluralism as a Defence of the Incommensurability Thesis

In Feyerabend's opinion, the consistency condition; the imperative that new theories and approaches in science must, as a matter of necessity, be consistent with older and acceptable theories, is not favourable for progress in science. This point of view in science has been termed the commensurability thesis. He advances a contrary thesis, which will be referred to as the incommensurability thesis, thus introducing a new voice in the Philosophy of Science.

This concept dates back to Ancient Greek mathematics, where it was used to imply "no common measures between the length of a leg and the length of the hypotenuse of an isosceles right triangle."<sup>16</sup> However, in recent times Feyerabend and Thomas Kuhn are the ones on whom the term has been attributed. Laudan will define the term in the following summary: "Incommensurability of theories at the object level does not entail incompatibility at the meta-level. The wide held assumption that a non-translatability leads inevitably to cognitive relativism is widely mistaken."<sup>17</sup> This, it must be noted, was his attempt to argue against the positivists' view that new theories must, as a matter of fact, follow the procedure laid down by older and more generally accepted theories. Kuhn on his part posits that, incommensurability implies for example, that where proponents of the Newtonian theory see a pendulum, an Aristotelian saw constrained free fall; where Priestly saw dephogisticated air, Lavoisier saw Oxygen; where Berth Ollet saw a compound that could vary in proposition, Provost saw only a physical mixture."<sup>18</sup> We notice from the examples

<sup>13</sup> Feyerabend, P.K., 1993, *Op. Cit.*, p. 153.

<sup>14</sup> *Ibid.*, p. 154.

<sup>15</sup> *Ibid.*

<sup>16</sup> Mill, J.S., On Liberty, *Op. Cit.*, p. 293. In recent times, Paul Feyerabend and Thomas Kuhn are the ones on whom the term is attributed. Here, the use it to question sciences claims to nationality. In Stanford Encyclopaedia of Philosophy, <http://plato.stanford.edu/entries/incommensurability>.

<sup>17</sup> Laudan, L., *Beyond Positivism and Relativism Theory, Method, and Evidence*, Oxford, West View Press, 1996, p.12.

<sup>18</sup> Kuhn, T., *The Structure of Scientific Revolutions*, Chicago,

above that to Kuhn, theories are incommensurate when they cannot be compared. This lack of comparison is because different scientists have different observations of the same objects and thus come out with different analyses and conclusions. The question however remains the one to know; what is the relationship between methodological pluralism and the incommensurability thesis?

The answer to the question above necessitates that we consider what Feyerabend articulates in *Against Method*, especially concerning the consistency condition. First of all, to him, theories are hardly ever consistent with facts, that is, no theory is commensurate with clearly established ideas. For this reason, the demand to admit only theories which follow from facts leaves us "without any theory, for there is not a single theory that is not in some trouble or another."<sup>19</sup> The meaning of this argument is that, the modernists' view that new ideas must be in line or agree with or form an intrinsic part of older theories, (commensurability of scientific theories) is a sham. It is a sham because no theory ever agrees with facts and to say the least, every theory has one weakness or another. As such, imposing the submission of new theories to the already existing ones is cumulating the weaknesses of the well-established theory to the newly established one which already has enough weaknesses.

Secondly, Feyerabend's argument in the support of incommensurability and by implication, in defence of plurality of ideas and approaches in science, can be deduced from his argument against the imposition of western backed rationality in non-western societies. To him, arguing that new theories must be commensurate to old ones, to well established ones, gives an unjustified privilege to the hitherto established theory or method. This view is corroborated by the fact that, there will always be a well-known or an acclaimed way of doing thing. If new approaches to knowledge must as a matter of fact agree with the already existing ones, then the survival of the new theories of approaches is at the mercy of the existent theory. This will rather hinder research than ameliorate it. This is principally because even the so called 'already established idea or approach to knowledge' began somewhere as an unknown idea. It started as a primitive idea, yet was given an opportunity to manifest. Critics who refer to him as relativist, anarchist and the worst enemy of science take advantage of this position vis-a-vis primitive myths and legends. In my opinion, Feyerabend rather stretches the elasticity of his methodological pluralism when he gives credence to Primitive theories and approaches outside modern science's approach. He rather is determined to propose a more accommodating approach to science, to ensure that nothing that is capable of encouraging progress in science is sacrificed on the altar of methodological monism. No doubt he is quick to assert that: "primitive myths appear strange and nonsensical only because the information they contain is either not known or is distorted by philosophies or anthropologists unfamiliar with the simplest physical, medical or astronomical knowledge."<sup>20</sup>

What Feyerabend means here is that, making it obligatory

---

University of Chicago Press, 1962/1970, Second Edition with Post Script), p. 128.

<sup>19</sup> Feyerabend, P.K., 1993, *Op. Cit.*, p. 49.

<sup>20</sup> *Ibid.*, p. 35.

for voodoo, for example, as a theory to be compatible and comparable with well-established doctrines in modern science, is an attempt to deny it the very essence of its existence as a theory destined to complete and overall the limitations of Western Science. The need for incommensurability really comes out clear when we take the example of the revival of traditional medicine in communist china. In the foot notes, he explains that the author of *Traditional Medicine in Modern China* gives very interesting and fair account of developments with numerous quotations from news-papers, books, pamphlets, but is often inhibited by his respect for 20<sup>th</sup> century science.<sup>21</sup> This respect for Western Science is what has contributed to its chauvinism. To justify this claim, he says that; "science is imported, taught, and pushes aside all traditional elements. Scientific chauvinism triumphs; what is compatible with science should live and what is incompatible with science should die."<sup>22</sup>

By way of conclusion, from the history of science as documented in *Against Method*, we understand that incommensurability, which underscores and defends plurality or diversity, has always been the foundational pillar for advancement in science. For example, he narrates that when the Pythagorean idea of the motion of the earth was revived by Copernicus, it met with difficulties which exceeded the difficulties encountered by contemporary Ptolemaic astronomers. But the fact is that when Galileo took upon him to make sense of this Copernican idea, he took upon himself to make sense of this Copernican idea, he took for granted that it has been refused. This refutation based on the fact that it was incommensurate to Aristotle's version as well as the facts from sense data. Since Galileo was convinced of the view of Copernicus, he looked for new kind of facts that will support Copernicus yet he accepted by all.<sup>23</sup> In order to obtain these facts, there was the need partly for the telescope to be invented, and to adopt his principle of relativity and his dynamics. Whatever the case, we must state the telescope was not commensurate to the instruments (scientific instrument) of the day nor was his principle of relativity. To him, both the results of the telescope and the new ideas of motion put forth were not welcome by common sense, and the theories associated to it could easily be disproved. Yet these false theories, says Feyerabend, these unacceptable phenomena were transformed by Galileo and converted in to strong support of Copernicus. From here, we understand that new idea or theory may not only be incommensurate to the status-quo. But as Feyerabend insinuates, facts are arranged "in a new way", approximations are made known effects are omitted, different conceptual lines are drawn, so that a new kind of experience arises and manufactured almost out of thin air."<sup>24</sup> This distortion as we understand permits Galileo to advance, but it prevents almost everyone else from making his efforts the basis of a critical philosophy. With commensurability, scientists, like the defenders of the one true Religion pride themselves with the right to provide everyone with the "right" way to attain "salvation" or "getting results" and they deny such authority from others.<sup>25</sup>

---

<sup>21</sup> Feyerabend, P.K., 1993, p. 36.

<sup>22</sup> *Ibid.*

<sup>23</sup> *Ibid.*

<sup>24</sup> Feyerabend, P.K., 1993, *Op. Cit.*, p. 120.

<sup>25</sup> *Ibid.*, p. 160.

In order to challenge Science's claims to superiority and to further strengthen the doctrine of incommensurability as an off-shoot of methodological pluralism, Feyerabend argues that "one must remember those cases where science left to itself, committed grievous blunders" and this goes to elucidate the fact that science is only one of the many instruments people invented to cope with their surroundings. It is not the only one, it is not infallible and it has become too powerful too pushy, and too dangerous to be left on its own. In addition one disadvantage of the commensurability thesis and the unanimity of laws, Feyerabend states, is that a society based on well-defined and restrictive rules, "forces the dissenter in to a no-man's-land of no rules at all and thus robs him of his reason and his humanity."<sup>26</sup> For this reason, Feyerabend by way of conduction argues that the chauvinism of science is a much greater problem than the problem of intellectual pollution. This to him is because scientists are not content with running their own play pens in accordance with what they regard as the rules of scientific method. They want to universalize those rules, they want them to become part of the society at large and they use every means at their disposal...<sup>27</sup> Communist china, discovered this aim of western science, that is, its chauvinistic attitude, its dogmatism and most especially its doctrine of the one and only universal method, and proceeded to divert from it into a direction that best suits their cultural and traditional background. That is how they developed Chinese traditional medicine.

### Paul Feyerabend and the Plurality of Methods in *The Tyranny of Science*

The title of Paul Feyerabend's work published posthumously, *The Tyranny of Science* speaks volumes. It speaks volumes about the intentions of the author. A reading of *The Tyranny of Science* unveils Feyerabend's zeal to liberate science from all tyranny, the tyranny of science included. It demonstrates his desire to introduce the pluralist approach to doing science. From the title of the book, one understands that modern science as it is, is a tyrant. It is a tyrant because of its autocratic approach, because it imposes on scientists a unique and unchanging approach to research. This view of science and its method has been defended variously by different modern philosophers of science such as Francis Bacon who thinks that:

If all the ages had or shall hereafter meet together, if the whole human race shall hereafter apply themselves to philosophy, and the whole earth had been or shall be nothing academic and colleges and schools of learned men, still without the experimental history such as I am going to prescribe, no progress of the human race could have been made or can be made in philosophy and science.<sup>28</sup>

By this pronouncement, Bacon systematically eliminates any other approach to scientific knowledge or epistemic certitude. He thinks that if his knowledge is approached in every other way, apart from the way conceived by him, then

<sup>26</sup> *Ibid.*, p. 162.

<sup>27</sup> *Ibid.*, p. 163.

<sup>28</sup> Bacon, F., "Preparative towards a Natural Experimental History". Retrieved from: [http://Baconian science and experiments/history](http://Baconian%20science%20and%20experiments/history), on the 10<sup>th</sup> May 2011.

science and philosophy will not progress. This is what has been referred to as the scientism of Modern Science. It is this tyranny, this autocratic approach to knowledge, which Feyerabend is critical about in *The Tyranny of Science*. To him, only a pluralist approach to science can defeat the tyranny inherent in modern science and its philosophy. This view in defence of science's exclusive superiority and authority in the quest for epistemic certitude is summed up by Meynell who claims that, "... it is the supreme and unique merit of the scientific method that it has been the means of discovering the truth where ignorance and superstition had previously prevailed..."<sup>29</sup> This book is therefore an attempt to expose this tyrannical nature inherent in modern science. It is aimed also at showing that, despite the abstract epistemic claims to the unity of science and the uniqueness of method, historical examples are indicative of the fact that science often progresses when scientists abandon the tools of uniqueness and universality of method and think outside the box. He is critical of the claim that Science alone, and this means its statements and the world views constructed from them, tells us what really happens in nature and views of Modern Science is the assertion that Science tells you everything there is to be known about the world, and that ideas which conflict with science are not worth considering.<sup>30</sup>

The meaning of the above assertion is that, whatever answer one needs to have about humanity, society, nature or the absolute, there is one source to provide the answer, science. Truth, according to philosophers of Modern Science is not found outside Science and its Method. Science is therefore all knowing, all encompassing, self-rectifying, and the only 'way' to true and objective knowledge. In Paul Feyerabend's view, this conception of Science will certainly create a monster. No doubt he says that; "the one monster SCIENCE that speaks with a single voice is a paste job constructed by propagandists, reductionists and educators."<sup>31</sup> The question now is; how does Paul Feyerabend unravel his philosophy of methodological pluralism in *The Tyranny of Science*?

### Feyerabend Views all Approaches and Forms of Knowledge as Same

Paul Feyerabend's arguments against Methodism and the universalism is mainly that it stifles progress in Science. Strict respect of stereotype rules of method leads humanity to a one single religion called Science. He thus raises arguments against these autocratic claims of modern science. To him, science is not singular; Science cannot progress if it is tied down by strict and universal rules. On the contrary, people who say that it is science that determines the nature of reality assume that the sciences speak with a single voice. They think that there is a monster, science, and when it speaks, it alters and repeats and repeats again a single coherent message. He thus adds as a form of contradiction that "nothing could be further from the truth."<sup>32</sup> This notion about science is just a fairy-tale. It is a fairy-tale because, "different sciences have vastly different

<sup>29</sup> Meynell, H., Science, the Truth and Thomas Kuhn, *Mind*, New Series, 84(333), 1975, p. 79.

<sup>30</sup> Feyerabend, P.K., *The Tyranny of Science*, Edited and with an Introduction, by Eric Oberheim, Cambridge, Polity Press, 2011, p. 54.

<sup>31</sup> *Ibid.*, p. 56.

<sup>32</sup> Feyerabend, P.K., 1993, *Op. Cit.*, p. 54.

ideologies. There is molecular biology... there is also the theory of elasticity."<sup>33</sup> This means, there is no uniform way to view the world, there is no uniform methodology to be practised in science, if this assertion is taken seriously, then the question is, what is the way forward to acquire knowledge in a world so complex and complicated, In a world that lacks uniformity, In a world that diversity of cultures and traditions appear to overshadow unanimity of thought and opinions. To Paul Feyerabend, there is one definite response to the above interrogations; it is the need to adopt the pluralist approach to doing science. In an attempt to demonstrate the relationship between pluralism and progress in science, he poses the question; "... is there a single world view?"<sup>34</sup> This question means; is there only one way of searching for the truth? Are there no other procedures or methods that can lead man to attaining certitude than the law and order method in science? Is method of modern science the only right and reliable way or approach to life?

Paul Feyerabend's reply is categorical: the materialist approach to science does not describe the world as it is, 'in and for itself'; it describes an aspect of an otherwise unknown entity. This argument tells us that Modern Science, otherwise called material Science is part of reality, and it provides part of the explanation vis-à-vis the nature of the universe. It does not provide us with the entire truth. In other words, true and objective knowledge about nature, society and metaphysics, to name but these cannot and will not be provided by material science and its method alone. There is a multiplicity, diversity or a plurality of thoughts that seeks to and explains the universe from one perspective or another. Western rationality, Paul Feyerabend says is simply a part of this explanation. To substantiate this position, Paul Feyerabend argues that "all cultures are in touch with reality."<sup>35</sup> That is to say, everyone in the universe, no matter the race is also connected to reality just like anyone else. This makes it such that, "we can learn from the most down trodden and the most backward people."<sup>36</sup> This is because these people also have an approach to life, to nature, to handling challenges, peculiar or unique to them. "... and that an attempt to force 'genuine' knowledge on them shows not only disrespect but also a good deal of ignorance."<sup>37</sup> In order to corroborate the assertion above, Paul Feyerabend adds that reason alone, that is; we mean western backed rationality cannot alone lead mankind to the truth about universe. He rather proposes plurality of methods. By this, he says that "progress in science depends on an openness to the world"<sup>38</sup> an openness to alternative methods, an openness to allow diversity of opinions to compete with one another.

From the above arguments, we understand what Paul Feyerabend once said in *Against Method*; "pluralism of the theories and metaphysical view is not only important for methodology, it is also an essential part of the humanitarian outlook."<sup>39</sup> That is to say, methodological diversity or

pluralism is a panacea against the tyranny of western civilization against non-western cultures which comes in the guise of modern science and its law and order method. Methodological pluralism to him is the way forward to free humanity from the tyranny of science because, "it, (science, reason) cannot stand divergent opinions, it calls them lies, it puts itself above."<sup>40</sup> Feyerabend thinks, as Malolo Dissake puts it, that science, after all is our creation, and not our master. For this reason it should be our slave and not the tyrant of our desires.<sup>41</sup> Western backed methodology has a negative prejudice on non-western ideologies; no doubt Paul Feyerabend says that "this is the attitude that destroyed Indian cultural achievements in the USA"<sup>42</sup>

### Modern Science's Claims to Superiority as Unfounded

It is not uncommon to have philosophers of science drum the virtues of modern science, sing its glories and claim that there is no other source of knowledge that is capable of satisfying man's quest for certitude other than Science. These claims, they say, are corroborated by the fact that modern science is capable of attaining objective truth while others are not. Here, the rational nature of science is emphasized as a virtue over the irrational nature of non-scientific sources of knowledge. It is from this perspective that Rene Descartes developed his rational rules of methods. These principles, when strictly followed, Descartes think that will take the scientific enterprise a step forward. On the contrary, Paul Feyerabend is categorical to the fact that "Reason alone is not a sufficient guide to life."<sup>43</sup> To him, human life and its challenges cannot be run by the simple application of reason, that is, western backed rationality. Life is more complex than modern scientific principles can explain. Plato says it all, when he explains the effectiveness of the use of dialogue in his works; "... dialogue resembles a personal conversation which he thought was the best method for exploring problems."<sup>44</sup> This view is relevant in our present discussion. Conversations, what Chimakonam Jonathan calls horizontal conversations in his article; "African Philosophy and Global Epistemic Injustice" go a long way to expantiate on the idea that the superiority complex of modern science is challenged by Paul Feyerabend's introduction of methodological pluralism. This challenge to science's claims to rationality is even more profound when Paul Feyerabend states that the jurors in a trial involving experts or the inhabitants of a country blessed with nuclear reactors must study documents and listen to experts. However, they can judge what they have heard or read without taking five semesters of physics I and II and three semesters of calculus and algebra and so on.<sup>45</sup> On this count, we can say that, modern science capitalizes on the ignorance of outsiders and claims to be the most superior form of knowledge. He thus adds that, the old distinction between the physical sciences and the social sciences, the distinction between science and non-science, as is the case with Karl Popper, is a distinction without a corresponding difference. All sciences are humanities and all humanities are science.<sup>46</sup>

<sup>40</sup> Feyerabend, P.K., 1997, *Op. Cit.*, p. 74.

<sup>41</sup> Malolo, E.D., *Feyerabend, Epistemology and the Free Society*, Paris, PUF. 2001, p. 112.

<sup>42</sup> *Ibid.*

<sup>43</sup> *Ibid.*, p. 102.

<sup>44</sup> Feyerabend, P.K., 2001, *Op. Cit.*, p. 103.

<sup>45</sup> *Ibid.*, p. 36.

<sup>46</sup> Feyerabend, P.K., *Three Dialogues on Knowledge*, Oxford, Blackwell, 1991, p. 145.

<sup>33</sup> *Ibid.*, p. 56.

<sup>34</sup> *Ibid.*, p. 35.

<sup>35</sup> *Ibid.*, p. 38.

<sup>36</sup> *Ibid.*

<sup>37</sup> *Ibid.*

<sup>38</sup> *Ibid.*, p. 43.

<sup>39</sup> *Ibid.*, p. 38.

This implies that, there is no superior discipline, they are interchangeable depending on which one produces better results or satisfies human desire for certitude.

In addition, science's claims to superiority is challenged when Paul Feyerabend, in an attempt to expatiate on the need for alternative procedure to be given the chance to compete with modern scientific theories, argue that even scientists make mistakes. For him, scientists also begin with assumptions which can also be wrong.<sup>47</sup> The analogy of the counting horses tells us that an idea or a theory can produce results, are performant yet wrong or based on false assumptions. It is based on this that Paul Feyerabend adds that, in China, scientists use a multiple approaches corresponding to the many different regions of nature and variety of their products. This example serves as an encouragement to other non-Western societies not to stick on the Western approach whose superiority, though emphasized, is yet to be confirmed in all domains of life. This means that he or she may also decide not to use science, rather he or she may be contented with employing alternative solutions to life's challenges or to handle practical matters.<sup>48</sup> A good example in recent times is President Clinton of the USA. He selected non-professionals in his economic team leaving aside the 'professional'. Why should Paul Feyerabend think that scientists should not claim superiority over knowledge, even scientific knowledge?

The answer to this question is evident in his assertion that questions of reality are too important to be left to science. That is to say, modern Science is not capable, without the collaboration of alternative sources of knowledge to attain human objectives. The limitations of science stem from the fact that:

1. The reality about the world of experience lies within its diversity while the principles of modern science rest upon the theory of abstraction and unity. This is evident in the assertion that when we talk about scientists, we mean people who rely on abstract principles and not practical experience.<sup>49</sup>
2. Historically speaking, scientific assumptions do not always rely on experience but on non-factual ideas. Taking the example of Copernicus, Paul Feyerabend says that true empiricists would not have been happy with his ideas for they were a sharp contrast with the experience of the day,<sup>50</sup> even much earlier, Thales' ideas and Parmenides unity as the basis of all diversity does not endorse diversity. Though we may not agree with his mean doctrine of pluralism, especially with the way he interprets it, attributing to it the need for different theories to compete with each other, we still think that Paul Feyerabend went a mile to develop the argument against methodological monism and scientific dogmatism while at the same time presenting sufficient arguments to substantiate his thesis on science.

### Pluralism as the Basis of Results in Science

One major characteristic of Science used to challenge other sources of knowledge contrary to Modern Science's

<sup>47</sup> Feyerabend, P.K., 2001, *Op. Cit.*, p. 36.

<sup>48</sup> *Ibid.*, p. 55.

<sup>49</sup> *Ibid.*, p. 64.

<sup>50</sup> *Ibid.*, p. 53.

approach to knowledge is that, science, with its unique approach, produces result and its alternatives do not. The results of science are thus tagged to its method and its universality. Philosophers of modern science claim that science is indispensable if we want to attain human's domination of nature. To them, the strict respect of the precepts and ideals of the modern scientific method plays the magic one to make humankind the master and possessor of the world. It is based on this contention that Bacon advises that; "... as in religion we are warned to show our faith by works, so in philosophy, by the same rule. The system should be judged by its fruits and pronounce frivolous if it is barren; ..." <sup>51</sup> On the contrary, Feyerabend does not seem to see it that way. This is because, to him, even though scientists may have improved on ideas, science does not have monopoly over truth. He wants to know;

.. What's so great about science?... For what the general public seems to assume is that the achievements they read about in the educational pages of their newspapers and the threats they seem to perceive come from a single source and are produced by a uniform procedure... But these disciplines,... arise when 'the scientific way' is applied to different topics; ... scientific practice is much more diverse...<sup>52</sup>

This is an argument which is strongly contested by Michael Mathews who thinks that,

... Relativists and 'multi-science' arguments are not convincing. Their core problem is that they assume empiricist views about what constitutes scientific activity and knowledge. As a consequence, they underestimate the peculiar features of the western scientific tradition, and so regard as science, activities and bodies of knowledge which are very different in structure, form and procedure from western science.<sup>53</sup>

Unfortunately, this 'peculiar features of western scientific tradition' is what Feyerabend refers to as, the claim to the superiority of Western Science. He thus argues that the advocates of the superiority of science over other forms of knowledge usually claim that science deserves a special position because it has produced results and they will use examples such as technological advancements, cures to dangerous diseases and so on. To them, there are many examples to articulate the conception that science is superior to other forms of knowledge. This claim to Paul Feyerabend is problematic because science is not the only form of knowledge which has produced good results. There exist a good number of non-scientific and to be more precise, non-Western traditions which have proven to be a force to reckon with especially in non-Western medicine or technology<sup>54</sup>

<sup>51</sup> Bacon, F., *The New Organon*, (1620), New York, Cambridge University Press, 2000, p., 124.

<sup>52</sup> Feyerabend, P.K., 1975, *Op. Cit.*, p. 258.

<sup>53</sup> Mathews, M., "Multicultural Science Education: The Contribution of History and Philosophy of Science", in Cohen, N.R., *SCIENCE, MIND AND ART, Essays on Science and the Humanistic Understanding in Art, Epistemology, Religion and Ethics In Honor of Robert S. Cohen*, London, Kluwer academic Publishers, 1993, p. 166.

<sup>54</sup> Feyerabend, P.K., 1981, *Op. Cit.*, p. 161.

The above argument is in agreement with that of Couvalis, who argues that “the assertion that current science is a more secure way of gathering knowledge than cleaning it from religious text is merely the unjustifiable assertion of the superiority of one world picture over another”<sup>55</sup> In fact, we cannot claim that Science is superior to other traditions or forms of knowledge because we cannot objectively compare them. They fall under different domains of knowledge. As such, to argue that science is more reliable while other forms of knowledge are not is not an argument based on objectivity. What is certain, Paul Feyerabend claims, is that the dominance or superiority of science cannot be rationally justified. In the practice of science, to attain epistemic certitude, we need scientific approaches as well as we need the approaches outside science. This is what we mean when we say, Feyerabend’s position vis a vis epistemology in general and the practice of science that leads to progress, in particular, is a pluralist one.

### Conclusion

Summarily, this work raises concerns to the fact that different critics of Feyerabend’s works begin either with the claim that it is difficult to understand Feyerabend, that his position vis-a-vis the philosophy of science cannot be easily traced, that Feyerabend mean different things to different persons. In my opinion, the above claims about him are a proof that he successfully defended his philosophy of pluralism to the extent that he won for himself a pluralist interpretation, a diversity of answers to one question; who is Karl Paul Feyerabend. That is why, I raised a thesis and attempted a defence. The thesis was that, contrary to many, who claim that Feyerabend cannot fit in a single and categorical description, to me, he does, and I call him a pluralist. I used two of his works, one at the early years of his career and the second published posthumously to defend or elucidate this description. Without defending Feyerabend’s claims that science is essentially an anarchistic enterprise, I am emphatic that this statement gave many of his critics the license to refer to him as an epistemological anarchist, a relativist, the worst enemy of science and even a Dadaist. True as it may be that Feyerabend himself used some of these terms to describe his work; for instance, *Against Method* is subtitled: *Outline of An Anarchistic Theory of Knowledge*. Also, when posed the question in the last chapter of *The Tyranny of Science*; “would you like to explain the subtitle of your book *Against Method*, you wrote an ‘anarchist’ and more over from a ‘Dadaist’ point of view.” Feyerabend in his response says; “the whole thing is a joke.”<sup>56</sup> The whole thing is a joke because this extreme position is to him, an adequate response to the extremist position adopted by the philosophers of Science, a position, which, to him, illustrates Scientism and Methodism of Modern Science and its method. It is with this interpretation of his ‘anything goes’ that I call him an extreme pluralist and not an anarchist. My interpretation of him does not, however claim that other readings of him are completely misconstrued, I rather think that in a typical Feyerabendian style, a multiplicity of interpretations and readings of his works justifies its pluralist outlook. That is why, while I comment that the different descriptions of him are necessary, they are not sufficient to give a full picture of this philosopher of science.

<sup>55</sup> Couvalis, G., *The philosophy of science: Science and Objectivity*, London, Sage, 1997, pp. 111-112.

<sup>56</sup> Feyerabend, P. K., 2011, *Op. Cit.*, p. 129.

The pluralist description of him, as I have stated fully represents him because it is holistic, including the relativist and the anarchist descriptions of who Paul Feyerabend is in the history and Philosophy of Science. For example, in order to illustrate my claim, I considered his challenge with the consistency condition and the commensurability thesis, his objection to the unity of science, and science’s claims to superiority over other forms of knowledge. At the same time, he defends the use of diversity of approaches in scientific enterprise he is constructing a philosophy of pluralism. When he argues that science has always progressed when scientists choose to abandon their unique method, and adopt any approach capable of producing results, I call him no better and more accommodating name than a pluralist. I thus used instances from *Against method* and *The Tyranny of Science* to substantiate the claims above. I may not personally agree with many of his pronouncements, especially his claim, Science is closer to myths and religion than many philosophers of Science will want to accept, yet I agree that this position epitomises his pluralist standpoint. Far from being an anarchist, I rather want to call him an extreme pluralist.

### References

- [1] Audi, R. (1995). *The Cambridge Dictionary of Philosophy*. Cambridge, Cambridge University Press, Second Edition, 1999.
- [2] Bacon, F., “Preparative towards a Natural Experimental History”. Retrieved from: [http://Baconian science and experiments/history](http://Baconian%20science%20and%20experiments/history), on the 10<sup>th</sup> May 2011.
- [3] Bacon, F., *The New Organon*, (1620), New York, Cambridge University Press, 2000.
- [4] Bunnin N., and Yu, J., (2004) *The Blackwell Dictionary of Philosophy*. Oxford: Blackwell Publishing.
- [5] Cohen, N. R., (1993). *SCIENCE, MIND AND ART, Essays on Science and the Humanistic Understanding in Art, Epistemology, Religion and Ethics in Honour of Robert S. Cohen*. London: Kluwer academic Publishers.
- [6] Couvalis, G. (1997). *The philosophy of science: Science and Objectivity*. London, Sage.
- [7] Einstein, A. (1951). *Philosopher Scientist*. (ed.), New York: P.A. Schilp.
- [8] Feyerabend, K. P. (1987). *Science in a Free Society*. London: New Left Books.  
(1991). *Three Dialogues on Knowledge*. Oxford: Blackwell.  
(1993). *Against Method*. London: Verso  
(1995). *Killing Time: The Autobiography of Paul Feyerabend*. Chicago: University of Chicago Press.  
(2011). *The Tyranny of Science*. (Ed.) and with introduction, by Eric Oberheim, Cambridge: Polity Press.
- [9] Gavroglu K., et al. (1995). (eds.), *Science, Mind and Art*. London: Kluwer Academic Publishers.
- [10] Kuhn, T. (1962/1970). *The Structure of Scientific Revolutions*. Chicago, University of Chicago Press, (Second Edition with Post Script)
- [11] Laudan, L. (1996). *Beyond Positivism and Relativism Theory, Method, and Evidence*, Oxford, West View Press.



- [12] Malolo, E. D. (2001). *Feyerabend, Epistemology, Anarchism and the Free Society*. Paris, PUF.
- [13] Meynell, H. (1975). "Science, the Truth and Thomas Kuhn." *Mind*. New Series. 84(333). p., 79
- [14] Preston, J. et al., (2000). (eds.), *The Worst Enemy of Science? Essays on the Philosophy of Feyerabend*. New York, Oxford University Press.
- [15] Soler, L. (2000). *Introduction to Epistemology*. Ellipses.
- [16] Theocharis, T., and Psimopoulos, M., (1987). 'Where Science Has Gone Wrong'. *Nature, Macmillan Journals Ltd.*, 229(6140), pp., 595-598.
- [17] The Definition of Incommensurability in Stanford Encyclopaedia of philosophy. Retrieved from <http://plato.stanford.edu/entries/incommensurability>, on 16 March 2019.

