



Francis Bacon's Qualification As A Principal Empiricist Philosopher

Abstract

The purpose of this paper is to determine if there is any basis for regarding Francis Bacon as a principal empiricist philosopher. This involves effort to determine what constitutes, in essence, the qualities of a principal empiricist philosopher. Are there any criteria that qualify one as a principal empiricist philosopher? Proceeding with this inquiry, our paper examines, on the one hand, the views of those who argue in defence of Bacon's qualification as a principal empiricist philosopher. Here it is argued that there is no empiricism without Bacon. That is to say, for this group of thinkers, modern empiricism is the brain child of Francis Bacon. It uses inductive methodology and it got adequate attention, in the period, from Francis Bacon. On the part of those opposed to Bacon's qualification as a principal empiricist philosopher, it is argued that Bacon's philosophy is a scientifically centered system of thinking and lacks argumentative ingredients of a good philosophy, its empiricist background notwithstanding. After a critical examination of the above views, amongst others, we discovered that empiricism, from the epistemological point of view, is opposed to rationalism in its attitude to the question of innatism. Bacon did not tackle this question of innatism. Again Bacon did not question the intellectual powers of man. In the opinion of our paper, therefore, the facts that Bacon neither tackled the epistemological question of innatism nor questioned the intellectual powers of man disqualify him as a principal empiricist philosopher.

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Introduction

The debate on whether Francis Bacon should be categorized among the principal empiricist philosophers is strong. While some are on the proposing side, others maintain the opposing view. Those on the opposing side claim that Bacon is more of a scientist than a philosopher, reason being that he failed to look critically into such questions as whether man can know, what man can know and how man can know. According to this opposing school of thought, Bacon's philosophy is more of a scientifically centered system of thinking or reasoning which lacks the rigour, criticality and argumentative ingredients of a good philosophizing enterprise.

On the proposing side, it is argued that there is no empiricism without Bacon. That is to say, for this group of thinkers, since the proximate origin of empiricism is traced to Bacon, modern empiricism is, therefore, the brain child of Francis Bacon. For them, empiricism is a philosophical system of inquiry as well as a means of acquisition of knowledge in modern

period of philosophy. It uses inductive methodology and it got adequate attention, in the period, from Francis Bacon. Hence, for them, it would be ridiculous for one to exclude Francis Bacon from the list of principal empiricist philosophers. It is views like the above, amongst others, that this paper is saddled with the responsibility of examining.

Definition Of Terms

Principal: Principal, going by its definition in the Advanced Learners' Dictionary, means a first in rank or importance. It is the title of the person with highest authority in an organization.

Empiricism: The word empiricism is derived from the Greek noun "emperia", which means "experience". It is a philosophical school of thought which holds the view that it is only through experience that one can have a true knowledge of the world. Empiricism is a direct opposite of Rationalism, which holds the view that true knowledge of the world can be acquired only through reason. The empiricists argue that the mind is capable of producing certainty of knowledge about nature provided that the proper

method is used. And that proper method to be used is empirical method, a method of observation and experience aided by our sense perceptions.

Empiricism is traced to the famous Greek philosopher Aristotle who is described as the precursor of empirical system of knowledge, due to the fact that he was the first thinker who boldly and elaborately articulated the view that experience not reason is the source of all knowledge. For Aristotle, one can only abstract after experience has provided a basic building block. That is to say, that abstraction through reasoning cannot be a primary source of knowledge but rather a secondary source of knowledge. Perhaps, in the modern period, Francis Bacon stood out as a representative of Aristotelian legacy of empiricism as a source of human knowledge. While advocating the view that true knowledge can be gotten only through experience, Francis Bacon urged that knowledge should be built on observation, with induction as the only acceptable method of acquiring reliable and practical knowledge.

FRANCIS BACON AND HIS INDUCTIVE METHOD

Francis Bacon (1561-1626) who was greatly influenced by the Renaissance spirit made a lot of impact in the modern era in terms of the reformation of knowledge. For Francis Bacon, "knowledge is power". He believed that man should dominate the world by the help of the knowledge he ought to possess. Bacon who saw the need to rely on the power of knowledge was greatly disturbed by the epistemological havocs caused by the church dogmatic doctrines of the medieval times. For him, the medieval period had distorted knowledge thereby clothing the philosophical atmosphere with pessimism. Bacon on this note set out to bring hope back to the acquisition of the knowledge of philosophy and science. He wanted to brighten the future of the philosophical and scientific enterprises.

For Bacon, there are three impediments to knowledge. These he called the distempers of knowledge. They are: Fantastical learning: when people prefer the use of high sounding language to focusing on the matter in question. Contentious learning: here people prefer dogmatism to new inquiries. Delicate learning: where people believe that they know more than possible e.g. Aristotle whose work he opposed

and regarded as nonsensical. Bacon also talked of the four idols which hamper our understanding and interpretation of phenomena. As Russell (1979:528) puts it:

One of the most famous parts of Bacon's philosophy is his enumeration of what he calls 'idols', by which he means bad habits of mind that cause people to fall into error. Of these he enumerates four kinds. 'Idols of the tribe' are those that are inherent in human nature; he mentions in particular the habit of expecting more order in natural phenomena than is actually to be found. 'Idols of the cave' are personal prejudices, characteristic of the particular investigator. 'Idols of the market-place' are those that have to do with the tyranny of words. 'Idols of the theatre' are those that have to do with received systems of thought; of these naturally, Aristotle and the scholastics afforded him the most noteworthy instances.

For him, these "idols" must be eliminated for adequate and accurate interpretation of phenomena. Bacon admired the works of one of the pre-socratic Philosophers, Democritus. He also developed interest in the scientific postulations of Kepler and Galileo. Although he went through these works, he was not satisfied and wanted the philosophy of his time to be reformed.

For philosophy to be reformed, he came up and advocated the "method of induction". As Russell (1979:527) puts it:

Bacon was the first of the long line of scientifically minded philosophers who have emphasized the importance of induction as opposed to deduction. Like most of his successors, he tried to find some better kind of induction than what is called induction by simple enumeration.

He advocated this method as a result of his belief that this inductive method can be of use to a lot of man's daily activities. This method of his was based on reason. And for him, systematic reason was paramount. The inductive method was actually not articulated by Bacon, but he made it popular. The method of induction, according to Bacon, is such that one has to sample all the data

before coming up with a conclusive fact. This, therefore, means that every information gathered must be experimented upon one by one. Further more in inductive reasoning, the past, the present and future must be observed before drawing a conclusive conclusion, otherwise the conclusion remains only probable. This method, therefore, is on its own a problem and as such is unreliable because, it is impossible for one to carry out experiment about the past, present and future aspects of any material object. And as a result of this, our knowledge claims remain limited.

Bacon advocated the theory of dual truth: truth of reason and truth of revelation. He advocated that there are two distinct ways of acquiring knowledge: knowledge through reason and knowledge through revelation. He maintained that philosophy should rely only on reason as a source of knowledge while theology should use revelation as its source of knowledge. That Bacon preferred reason to revelation as the source of philosophical and scientific knowledge can make one regard Bacon as a rationalist to some extent but more of an empiricist. But the reason Bacon has in mind is the systematic reason on which his inductive method is based. And inductive reasoning is very different from deductive reasoning.

For Francis Bacon, it is only through the concept of experimentation and observation that one can arrive at true knowledge. He brought about the inductive method into modern science and philosophy and believed that induction was the surest way to knowledge. But we notice in this connection that he did not totally cut off from Aristotle with whom the inductive method started, his criticism of Aristotle notwithstanding. The major weakness in Francis Bacon's work is that it lacked hypothesis. For any good work in science, one needs hypothesis so that one may have many relevant facts for one's experiments, on the platform of induction. But Bacon says that one may look at facts and the hypothesis would suggest itself. Induction and deduction are major ways of acquiring knowledge in the modern sciences, but Bacon acknowledged only the inductive method.

The Intellectual Powers Of Man

The joint positions of Locke, Berkeley and Hume to raise critical questions about the intellectual powers of man distinguished them as empiricist philosophers. This assertion is true

when we consider the fact that the proximate origin of empiricism is traced to Francis Bacon as the precursor of modern empiricism and yet he is not listed among the principal empiricist philosophers. Actually Bacon was the founder of modern inductive method. He was the first to elaborately formalize the use of observation and experimentation in the search for knowledge. This is one of the basic ideals of the empiricist school of thought. Bacon's philosophy was aimed at making knowledge practical which for him was geared towards man dominating nature to benefit humanity. In fact, for Bacon to have been the first to boldly and elaborately formalize the use of observation (he mostly used the method of induction by simple enumeration) he should have been included among the list of the principal empiricist philosophers. But the reverse was the case.

It is accepted that Bacon is the founding father of modern empiricism and the one who formalized the method of induction by simple enumeration. But Bacon took it for granted that the human mind has the capability of attaining knowledge of the universe. In other words, Bacon could not question the intellectual powers of man which other empiricist philosophers like John Locke, George Berkeley and David Hume did question. As Stumpf (1977:273) puts it.

Bacon raised no critical question about the intellectual powers of man. Bacon.... accepted without challenge the general view that the mind is capable of producing certainty of knowledge about nature provided only that the proper method is used....This was the assumption Locke called into critical question, namely, the assumption that enable it to discover the true nature of the universe. David Hume pushed this critical point even further and asked whether any secure knowledge at all is possible. In their separate ways the British empiricists Locke, Berkeley, and Hume challenged not only their English predecessors but also the continental rationalists, who had launched modern philosophy upon an optimistic view of man's rational powers that the empiricists could not accept.

From the foregoing, one can infer that although Sir Francis Bacon is noted as a founding father

of modern empiricism because he boldly and elaborately formalized the Aristotelian legacy of knowledge through observation and experimentation, yet he Bacon took for granted the intellectual powers of man. He assumed that the human mind has the capability of discovering knowledge of the universe. The quest for the intellectual powers of man was almost crashing out just before the renaissance. During the medieval period, the Church determined the content of knowledge and the direction of research in the subjects. Nevertheless Bacon was against this method as it crippled the human faculty in attempting to know reality. The emergence of Francis Bacon brought hope. He Francis Bacon revived the Aristotelian legacy of empiricism. He wanted to discover knowledge which can be used to defeat nature. As Russell (1979:527) puts it “the whole basis of Bacon’s philosophy was practical: to give mankind mastery over the forces of nature by means of scientific discoveries and inventions”. This sort of knowledge will definitely demand man to study nature properly. In view of this he began investigating nature in an attempt to gain power over it. Despite all these that Francis Bacon did, he is not listed as a distinguished principal empiricist philosopher.

The appearance of Locke, Berkeley and Hume changed the task of empiricism. These three philosophers paid great attention to how the human mind can know. Their concern was not just that of finding a new method. They were rather interested in finding out how the human mind can attain indubitable empirical knowledge. These three empiricist philosophers after investigating the intellectual powers of man came to the conclusion that there is nothing in the intellect that was not first/originally in the senses; that all our intellectual knowledge stem from our senses. Hence the intellectual powers of man are greatly dependent on the senses. In this way, these three empiricist philosophers laid great emphasis on the senses. Although Francis Bacon laid this same emphasis on the senses, he failed to investigate the intellectual powers of man like Locke, Berkeley and Hume did, after him.

It is worthy of note that while the remote origin of empiricism is traced to Aristotle, the proximate origin of empiricism is traced to Sir Francis Bacon. Bacon was the first in the long history of empiricism to yearn for a decisive break with the traditional way of thinking. He

said that the syllogistic logic of Aristotle and the Aristotelians was unsatisfactory as a source of new knowledge. He noted that instead of leading to new premises, they always lead to the same old premises that give no new knowledge. Bacon referred to the system of learning advocated by Aristotle and Plato as phantoms which only produce illusions. Bacon thus maintained that for there to be any real advance in knowledge, there has to be a change in the method of knowledge acquisition. The Aristotelian method of induction by simple enumeration was virulently criticized by Bacon. Bacon discovered the porousness of that method which derives conclusions from the study of few cases. He, therefore, advocated a special method which is today called the qualitative method of induction. This method studies a wide variety of cases, drawing comparisons, deviations and exclusions before arriving at conclusions.

This new method advocated by Bacon is the basis for the current scientific method of induction. Thus Bacon contributed immensely to science. Also, in this regard, he carried on experiments, which he opined should serve as an element that guarantees certainty in knowledge acquisition. It is also noteworthy that Bacon died of cold which he contracted while trying to stuff a dead chicken with ice to determine the ability of ice to prevent a dead chicken from decay. As Russell (1979:527) puts it: “After five years spent in retirement, he died of a chill caught while experimenting on refrigeration by stuffing a chicken full of snow”. For this he is a prominent precursor to most of the present day discoveries of science.

The Epistemological Question Of Innatism

In Bacon’s account of man’s ability to acquire knowledge, Bacon discovered some vices and idols which act as barriers to knowledge acquisition. For him the idols dampen the mind and thus make the knowledge acquired to be unclear. Bacon, however, took for granted the mind’s power for knowledge acquisition. He assumed that the mind can attain certain knowledge, IF THE IDOLS ARE REMOVED. Thus Bacon assumed that the mind has innate powers for knowledge acquisition. This assumption was also basic in rationalism as Descartes defended intuitive knowledge capacity of the mind.

Descartes' theory of innate ideas is itself not free from obscurity. Descartes sees the innate ideas, as germ of truth which exists naturally in our minds. They are for him ideas planted in our minds by nature. Each of us has, according to Descartes, a number of innate ideas planted in the mind by nature or by God. For Descartes, according to Volume IV of Copleston (2003:83) "all clear and distinct ideas are innate. And all scientific knowledge is knowledge of or by means of innate ideas". To the objection by Regius, Henricus that the mind has no need of innate ideas or axioms, Descartes insists that the innate ideas are not things added to the mind from outside the mind but are integral parts of the mind's constitution. So for Descartes, the innate ideas are innate constitutions of the mind. So innate ideas for Descartes are not distinct from the mind but part and parcel of the mind.

Today, empiricism understood as a philosophical school of thought opposed to rationalism differs greatly from rationalism in its attitude to this epistemological question of innatism. Thus, if empiricism is understood in this way, one can validly suggest that Bacon was not a distinguished empiricist philosopher. For him to have been qualified as a distinguished empiricist philosopher, one would HAVE EXPECTED HIM TO TACKLE THIS QUESTION OF INNATISM which distinguishes empiricism as a philosophical school of thought from rationalism.

The word principal refers to the prime place accorded a distinctive personality who engages in a distinctive task. Bacon did not engage in the distinctive task of tackling the question of innatism which distinguishes empiricism, as a philosophical school of thought, from rationalism. In the history of the development of philosophy, empiricism precisely, it was the three British empiricist philosophers that tackled this distinctive question. They rejected the notion of innatism as unempirical and thus impossible. We need to note that the joint position of the philosophers Locke, Berkeley and Hume include among others:-The view that man can only have genuine knowledge about things through sense experience. The three rejected innate ideas. They are regarded as principal empiricist philosophers because they respectively tackled the question of (a) If man can know? (b) What man's mind can know (c) How the mind can know? Now let us consider their respective theories.

John Locke, (1632-1704) was the father of British empiricism. He rejected Descartes' criterion of certainty and decided to build his own distinct theory of knowledge. Locke in his book *An Essay Concerning Human Understanding* denied that knowledge can be primarily acquired through reason and rejected the innate ideas. For him innate knowledge is impossible. He said that if innate knowledge was feasible, then it will be possible that babies and dunces will have knowledge. But this is not the case. He set out to find the genuineness, extent and certainty of human knowledge, and arrived at a conclusion that knowledge can be acquired only through sense-experience. That the human mind at birth is like a 'tabula rasa' which means 'clean slate'; that it is through experience, through the instrumentality of the five sense organs that we acquire knowledge about the things around us. For Locke, when we are in contact with an object, we do see not the object per se, but the ideas that emanate from that object. So the idea that emanates from the object is what is presented to us in perception. But this idea is not like Plato's or Descartes' innate ideas but an idea that comes out from the object of our perception. We should also note that Locke distinguished between primary and secondary qualities. He said we cannot know primary qualities, but we are aware of secondary qualities.

George Berkeley (1685-1753) was the second of the British empiricist philosophers. He criticized Locke's distinction between primary and secondary qualities, because he felt that there is no distinction between the two. He too set out to prove the real source of knowledge and at the same time to prove the existence of God. We should note that he was metaphysical in this aspect. The man Berkeley, following this tradition said that knowledge is gotten from experience. That what we know are ideas. Unlike Locke, who said that the ideas represent things in the world, Berkeley said that ideas are things themselves. For him, the existence of a thing is in its being perceived or in perceiving. This is said in Latin as 'esse est aut percipi aut percipere'. For him, the boundaries of knowledge are confined by perception in experience. In his "esse est percipi" Berkeley stated that, for us to say we know anything, we have to perceive that thing. He was criticized by some persons/philosophers who felt that while trying to criticize Locke's common sense knowledge, he got involved in his own mess,

which he did not have enough evidence to back up. Questions were thrown at him, and one of such is:- If you say that it is only when we perceive an object that it exists, does it mean that things are not in existence until we perceive them? If we perceive them now, does it mean that when we turn our back away from these things, they cease to exist? Berkeley's answer to those questions was that, there is a being that perceives objects, thus causing them to come into existence, and be in existence, even when we are not there. Ideas for Berkeley are things in themselves. Such ideas do not emanate from objects as Locke taught.

David Hume (1711-1776) was the third British empiricist and the most consistent empiricist. John Locke and George Berkeley were not consistent because they dragged metaphysical views into their empiricism, whereas Hume preferred to be skeptical about things in the world that he did not have an answer for. His theory of knowledge was anchored on his notion of impressions and ideas. He stated that when we come in contact with an object through experience, the impressions we have of the object through experience will later be recollected as ideas in the mind. Impression precedes ideas. For him, impressions are genuine, because they are realities, but ideas are not genuine, because they are free and can wander. It is at the idea level that the mind thinks of imaginative things like flying horse and golden mountain, which the impression did not pass to the idea. Hume rejected the idea of self. Hume stated that there is nothing physical that one can refer to as self, unless by self one means emotions like love, hatred, pleasure, pain etc. Can positing such emotions to be self make any sense, Hume wondered? Regarding the existence of God, Hume postulated that, nothing can cause another thing to become. Therefore we cannot say that there is a God that caused the world. For a thing to cause another, four things must be involved, which are:-

Priority in time and space: A must appear before B. Contiguity: A cannot exist without B. Constant conjunction: A and B must always be together. Necessary connection: There must be a connection between A and B.

For these reasons, Hume stated that nothing causes the effect of another because no acclaimed cause can have the above attributes.

Bacon As A Principal Empiricist Philosopher: A Critique

Is Francis Bacon a principal empiricist philosopher, based on his contributions to philosophy as a whole and empiricism in particular? Or is he a principal empiricist philosopher based on his being the first articulator of empiricism in the modern period of philosophy? Volume III of Copleston (2003:308) has this to say

For my own part I find Bacon's outlook inadequate if it is considered as a comprehensive philosophy, but I do not see how one can legitimately deny its importance and significance. If one looks upon him as a metaphysician or as an epistemologist, he scarcely bears favourable comparison with the leading philosophers of the classical modern period; but if one looks upon him as the herald of the scientific age he stands in a place by himself.

If we look at the word principal analytically, we would capture its divergent interpretations. Principal in one sense means a person who takes a leading position in an organization. While in another sense, it could stand for a person who plays a special role or key role in the course of doing something or inventions as the case may be. In other words, principal could mean: main reason for doing something or simply put, the principal reason for doing a thing or carrying out a task. Hence, going by the above analysis of principal, one could rightly suggest that Bacon does not qualify as a core or main empiricist philosopher.

Undisputedly, Bacon has the empiricist spirit, owing to the fact that he articulated and championed the view that experience is the most sure way of knowledge acquisition. Hence, we can say that Bacon articulated this view and the other empiricists developed it. Or that Bacon laid the foundation and the other empiricists built on the foundation. This suggests that Bacon can only be recognized as the facilitator of empiricism but can never be regarded as the developer of empiricism. The crux of the matter is: should Bacon be given a pride of place alongside the other notable empiricists having been the facilitator or founder of empiricism in the modern period? But looking at individual

contributions to the development of empiricism, one would not be wrong to say that Bacon's contribution is in no way comparable to that of any of the notables. Thus, he is more interested in how to use empirical principles to solve scientific problems than in problems that are of philosophical relevance. This is in consonance with the view of Russell (1979: 526) "Francis Bacon although his philosophy is in many ways unsatisfactory has permanent importance as the founder of modern inductive method and the pioneer in the attempt at logical systematization of scientific procedure". So, for Bacon the method of induction which he championed is to give mankind mastery over the forces of nature not the other way round. He believed that knowledge by the utilization of the sense conforms with the scientific notion of verifiability and so he championed the experiential method (Empiricism) to sooth his already held view of scientific knowledge.

CONCLUSION

In the modern period of philosophy which started with the Renaissance, the focus as put forward by Stumpf (1977:209) was "... the unfolding world of science". Science was the dominant feature in this period; methods of science and learning were revisited and revived. It would appear convenient to say that Francis Bacon is the father of modern science because he came emphasizing the method of induction in science. He focused attention on scientific development, maintaining that Aristotelian deductive method cannot fit into science. He engaged in lots of empirical scientific researches and was the one who discovered refrigeration. Unfortunately he died due to cold from ice after a refrigeration experiment on a dead chicken. Today the world is enjoying refrigeration and other cooling electrical appliances, thanks to Francis Bacon. From that time on, other scientists picked up from where he had stopped to build up scientific enterprises till date. The inductive method he advocated, allows for simple enumeration or experimentation of instances for a general conclusion or theory to be established. From all these, we see that Francis Bacon is well qualified to be the father of modern science, a position that has never been contested, the prominence of Kepler, Galileo and others notwithstanding.

Since empiricism, from the epistemological point of view, is opposed to rationalism in its attitude to the question of innatism, one can validly

suggest that Bacon does not qualify as a principal empiricist philosopher. To qualify as a principal empiricist philosopher, one would have expected him to tackle this question of innatism. Again Bacon took it for granted that the human mind has the capability of attaining knowledge of the universe. In other words, Bacon did not question the intellectual powers of man. On the other hand, the three empiricist philosophers Locke, Berkeley and Hume tackled the epistemological question of innatism and raised critical questions about the intellectual powers of man. By so doing, they distinguished themselves as empiricist philosophers. These efforts of theirs qualified them as principal empiricist philosophers, while the absence of such efforts in the works of Francis Bacon, disqualified Bacon as a principal empiricist philosopher.

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