

CHAPTER 1

PROLEGOMENA

1.0 Introduction

This is a philosophical story of human minds dealing stubbornly with the same perennial problems of knowledge, encountering the same difficulties, struggling untiringly with the same obstacles, and slowly and gradually, in doing so, developing for themselves instruments and tools, new concepts, new methods of thinking, in order to overcome them, and thus making up philosophical experiments. Instead of presenting those strenuous efforts of human minds dealing with such problems, this study also narrates in comparative manner such philosophical experiments as emerged from the efforts of Descartes and Popper in dealing with the problem of the foundations of knowledge.

1.1 Background of the Study

The fundamental theme which lies at the basis of this study is deeply rooted in the philosophical interest of its author on the problems of knowledge. In order to gain an insight into these problems, I think it is much more profitable, and indeed necessary, to start at the beginning, as far as possible, or at least to focus on some interesting attempts made by certain philosophers at solving some of the central issues in philosophical knowledge, and to follow their historic developments. Yet as difficult as such a task may

be, I propose to carry out a systematic study on the problem of the foundations of knowledge in the epistemological views of Descartes and of Popper.

1.2 Rationale of the Study

The *prima facie* and interrelated reasons which prompt me to attempt at comparing the epistemological positions of Descartes and Popper in terms of their views on the foundations of knowledge are as follows: firstly, it is based on the consideration of the development of the discourse on epistemology in Western modern philosophy. Needless to say, Descartes was the one who founded the modern rationalism and its foundationalist programme.¹ But many of his contemporaries and later generation of philosophers found his programme as unconvincing, and by the eighteenth century the empiricists had grown sceptical of a priori reason and of the attempt to ground knowledge upon it, and furthermore there are continuous debates until recently over his views on the foundations of knowledge. Popper was one of them. And he used to grapple with the same problem of the foundations of knowledge, and had criticised, either directly or indirectly, Descartes and those philosophers who involved in the quarrel between empiricism and rationalism pertaining to such a problem. Thus, it is interesting to unfold the historical development of these debates by way of comparing the views of Descartes, as the father of modern philosophy, and of Popper, as one of his greatest grandchildren.

Secondly, this study, however, is not intended to be arguing for or against the foundations of knowledge, rather it is merely an attempt to attain a deeper understanding,

¹ In this program he argued that we must doubt whatever we can doubt if we are ever to be certain of anything at all. It is only in this way, he said, that we could arrive at a certain, indubitable, and infallible foundation. Since he recognised that sense perception is too fallible to serve as foundation or source of certain knowledge, he thus argued that reason (intellect) is infallible source of knowledge.

and soon to become one of the starting points for further philosophical reflections. Finally, Descartes and Popper are chosen based on the historical contexts in which they lived and their influences on other aspects of living. For Descartes, in spite of the religious character of his epistemology, it is also an attack against traditional beliefs and thus clearly anti-authoritarian and anti-traditionalist in character. Or more to the point, his attack was intended to be an attack upon authority and tradition, that is the authority of Aristotle and the tradition of the scholastics (DM, 141-52; Grayling 2006, 1-2). Thus, from the political point of view, his rationalist epistemology and philosophy has also influenced the development of Continental, especially French, Liberalism (Hayek 1982, 120). While for Popper, he is chosen based on the fact that his theory of scientific knowledge is influential in recent development of British, or evolutionary, liberalism. In other words, both Descartes and Popper played important role in the Continental and British liberalisms on the epistemological level of the doctrines—and thus, it is imperative to understand their epistemological positions in order to understand a part of the structure of the world we live in for it is the fact that we are now for the most part living in the liberal age.

1.3 Research Questions

Taking into considerations the historic development of philosophical knowledge in general and epistemology in particular, there are several questions which can be posed in comparing Descartes and Popper on their views on the foundations of knowledge, and consequently need a meticulous study as to offer an answer. Among the questions that will be discussed are:

- (i) What exactly did Descartes think in the context of seventeenth century Europe about the problem of the foundations of knowledge? And what are the factors that influence him to think so, and what are the reasons that he offered for his views?
- (ii) What then did Popper think in the context of twentieth century Europe, after a remarkable development in philosophy and scientific knowledge, about the problem of the foundations of knowledge? And what are the influencing factors that shape his views, and what are the grounds that he offered for his views?
- (iii) What is the rationale for comparing between the views of Descartes and of Popper on the problem of the foundations of knowledge, and what are the similarities and differences between their views?

1.4 Objectives of the Study

The objectives of the study are as follows:

- (i) To undertake a systematic study on Descartes' epistemology and its relation to his views on the foundations of knowledge and thus provide an interpretation on the characteristics of the idea of certainty in his epistemology;
- (ii) To fill a lacuna in the extensive literature on Popper's philosophy by way of investigating his ideas on the foundations of knowledge in which I shall attempt to

provide a new interpretation on the genesis of his epistemological principles and methods;

- (iii) To make a philosophical disquisition on the problem of the foundations of knowledge by way of making a comparative exposition of the epistemological claims of Descartes and Popper on the subject in the light of their specific philosophical and historical problem situations.

1.5 Literature Review

Descartes and Popper of course lay out their epistemologies and discussed the problem of the foundations of knowledge. Although Descartes is well known as a systematic philosopher (which means that his metaphysics, epistemology, natural philosophy, and method and so forth stand together as parts of a larger philosophical system), nowhere can be found in the corpus of Descartes' philosophical writings that he systematically expounds his epistemology in a single whole system. In the *Meditations*, he pursues the method of universal doubt by which he reaches the foundations of certain knowledge but leaves unexplained the characteristics of certainty that he has in mind. In the extensive philosophical literature, particularly that written by Anglo-American philosophers and historians of philosophy, almost all the attention has been paid to the whole system of his philosophy as can be seen in such works by Norman Kemp Smith (1962), Anthony Kenny (1968), and Bernard Williams (1978) and the most recently by Cottingham (2008); and there is also a study based on his books such as Sarkar (2003) which gives commentary on his *Meditations*, and Joachim (1997) which deals with his *Rules*.

In addition to this general trend, there are of course some studies following the thematic approach to Descartes' philosophy. A. K. Stout in his "The Basis of Knowledge in Descartes" (1929a and 1929b) attempts to show how Descartes' arrives at the three main grounds of certainty in his *Meditations*, that is: (1) the intuition of the necessity of his own existence, stated in the form "*Cogito ergo sum*", (2) the general rule that all that is clearly and distinctly perceived is true, and (3) the veracity of God, are related to each other, and to assign to each its relative importance. He also shows that Descartes' general rule "what is clearly and distinctly perceived is true", supposed to be inferred from the *Cogito* and confirmed by God's veracity, does not occupy the place in his epistemology which commonly assigned to it.

In Flage and Bonnen (1999) they briefly discuss Descartes celebrated "Method of Doubt" and give more emphasis on his method of analysis which he alludes in his *Discourse, Meditation, and Principles*. They examine the method as such and attempt to show how Descartes' method of analysis works and how his abstract remarks on method suggest a procedure, and show how that procedure is employed in his non-metaphysical works. They also examine his individual Meditations and thus argue, among other things, that the Descartes of the First Meditation focused his attack on empiricism, and that there are four versions of the *Cogito* argument and that there is an intimate relationship between Descartes' proof of his existence and his clarification of the idea of the "self". From the Third Meditation, they show that Descartes has two objectives as to firstly show that God exists and secondly to clarify the idea of God. There is also a discussion on Descartes' theory of judgment based on his Fourth Meditation by which he explains the compatibility of a non-deceptive God with the fact of human error. From this point they proceed to argue

that Descartes widens the implications of the non-deceptive God hypothesis to justify the belief in the material world.

There is also an attempt made by Daniel Garber (2001) at recovering a genuinely historical Descartes. Throughout the study his concern falls on themes such as: the methodological and epistemological issues in Descartes' philosophy; his method as articulated in the *Rules* and the *Discourse* in which Garber argues—in contrast to the general assumption that the method that Descartes articulates in those earlier works follows throughout his career—that in an important sense, the official method is abandoned in his later scientific and philosophical writings. Garber also treats the question of geometrical method in Descartes' writing by which he shows that the *Meditations* are written in the analytic style, following the method of discovery of the *Rules* and the *Discourse*, while the more scientifically oriented *Principles* was written in the synthetic style characteristic of Euclidean geometry. Garber broadens his discussion to the problem concerning Descartes' actual method of experiments in his earlier and later works in which he shows how Descartes' method from the *Rules* and the *Discourse* was employed in the practise of experimental science by examining his analysis of the rainbow as given in the *Meteors*, published with the *Discourse* in 1637. In this discussion Garber also shows how, for Descartes, experiment is fully consistent with certainty.

Lastly, there is also an academic dissertation which studies Descartes' analytic epistemology (Newman 1994) and tries to resolve a number of interpretive difficulties pertaining to the epistemological project in the *Meditations*. The researcher claims to solve the problem of the Cartesian Circle, and shows how Descartes deduces a two-condition

criteria of truth, in part, from principles expounded in his Fourth Meditation, on theodicy. In this respect, the researcher argues that these criteria is logically prior to the famous clear and distinctness criterion as well as the Sixth Meditation claims to empirical knowledge. Finally, he shows that a sceptical argument about unknown mental faculties takes centre stage in Descartes' treatment of the problem of the external world—a sceptical argument that has been unnoticed in the secondary literature on the *Meditations*.

From this brief survey of the literature on the philosophy of Descartes, it is clear that they have attempted to provide an exposition of Descartes' epistemology but omit an examination of his view on the foundations of knowledge in the structure of his epistemology. Thus, it seems appropriate to embark on a systematic study of Descartes' epistemology and its relation to his view on the foundations of knowledge. I shall also provide an interpretation based on his major works on the characteristics of the idea of certainty that Descartes aspires in his epistemological project. I shall now turn to Popper.

Throughout his long philosophical career which spanning over sixty years Popper has produced a profound and a coherent system of philosophy unusual for a modern philosopher, which ranges over almost every aspect of human knowledge—epistemology, logic, philosophy of science, scientific method, political economy, social sciences, history of ideas, and so forth. On epistemology, Popper reveals the errors of any attempt at providing a foundation for our knowledge in his *Logic*, and laid down his epistemological theory of trial and error in his *Conjectures*. But, throughout his extensive writings, nowhere can be found that Popper systematically expounds his view on the foundations of

knowledge and its relation to his theories of scientific knowledge and of method, except for a brief treatment of the problem of empirical basis in the *Logic*.

Taking into consideration the vast literature on his philosophy, there are some works that sweep over a vast range of the philosophy of Popper, such as those of Corvi (1997) seeks to draw out the main lines of Popper's thought and to show that they remained constant through the evolution of his huge body of writings; Stokes (1998) aims at broadening our understanding of the philosophy of Popper by presenting Popper's work as an evolving system of ideas by taking into account the wider range of his writings, and offers a critical analysis of the achievements and shortcomings of Popper's philosophy; and Keuth (2005) deals comprehensively with Popper's philosophy of science, social philosophy, and metaphysics, especially his ideas on determinism and ontology.

In García (2006) I find a study that takes a thematic approach to Popper's theory of science, namely his treatments of the problem of induction and his notions of falsifiability, corroboration and verisimilitude. The author provides a clear construal of each of these ideas and explains the basic form of their interrelation with the hope of giving the reader the tools necessary to grasp Popper's theory at its best. Throughout his writing the author attempts to disarm the most important objections to Popper's ideas, and showing that they misconstrue his intent. In doing so, the author draws on material from the best-known critics such as Kuhn, Lakatos, Feyerabend, Putnam and O'Hear, without neglecting some authors whose criticisms have received less attention in literature. The author also proposes interpretations that are more sympathetic to Popper's work and fit better in his overall philosophical project, and introduces some modifications to the concepts of corroboration

and verisimilitude and argues for what he takes is the right way to formulate the relations in which they stand one to the other while explaining what they contribute to a falsificationist theory of science. And all these are set forth in the spirit of Popper's philosophy.

From the preceding account on part of the extensive literature on Popper's philosophy, what is left behind for the present study to be occupied with is the systematic investigation of his theories of scientific knowledge and of method and their relations to his views on the foundations of knowledge. In this connection, I shall also attempt to provide a new interpretation on the genesis of his epistemological principles and methods.

Given the fact that no study has been hitherto undertaken in comparing Descartes' and Popper's epistemologies, this study shall therefore compare their epistemological and methodological claims with the hope of shedding some light on their views on the problem of the foundations of knowledge.

1.6 Scope of the Study

Basically, the study shall investigate some questions pertaining to the theory of knowledge especially those related to my specific subject-matter as has been indicated in the discussion on the background of the study, i.e.:

- (i) Relevant epistemological conceptions in the Western philosophic tradition that has to do with the subject-matter of the study;

- (ii) Descartes' epistemological position, particularly on the foundations of knowledge, including his methods and conception of knowledge;
- (iii) Popper's theory of scientific knowledge and his views on the foundations of knowledge.
- (iv) Some fundamental differences and remarkable similarities in their views on the foundations of knowledge, including their methods and conceptions of knowledge.

1.7 Methodology of the Study

The present study adopts some basic methodological approaches in the traditional method of philosophic commentary, namely: an expository approach and a constructive approach. In the expository approach, I discuss the appropriate background for each of the concepts that are essential to the epistemologies of Descartes and Popper, as to enable the reader to see how they fit in the broader structure. The purpose of this method is to ascertain the deliberate intentions of Descartes and of Popper and it focuses on their texts and preserves their integrity. Its exclusive aim is to elucidate what the philosophers say and the way they say it (Muhsin Mahdi 2006, 11). In the constructive approach, I attempt to provide a coherent and systematic reconstruction of their epistemologies and their views on the foundations of knowledge.

Apart from these approaches, the study also employs two other detailed approaches, that is: an historical method and a comparative method. I shall now attend to both methods in turn.

1.7.1 Historical Method

Given the fact that philosophers are historical beings and philosophising occurs in historical time in certain historical situation, I shall employ a method that has been widely used in the discipline called history of philosophy. The reason for choosing the method in the history of philosophy rather than in other disciplines such as history of ideas or intellectual history is based upon the fact that the subject under investigation is purely a philosophical problem which is argued for or against by certain criteria of argument and of validity, and was a primary concern which occupied philosophers since Descartes up to the present time. The subject-matter of the history of ideas, on the other hand, comprises not only the thought of [professional] philosophers, but also those less systematically or clearly expressed ideas which can be found in other fields of sciences such as in arts, in literature, and in religion or in popular thought.²

Although some might say that methodological considerations are often superficial and pointless, since they stand apart from what is being studied and they are always forgotten once the real business begins (Zarkar 2005, 147), it seems that a more detailed discussion on the method of the history of philosophy is needed here due to the fact that it

² Paul O. Kristeller, "History of Philosophy and History of Ideas," *Journal of the History of Philosophy*, Vol. II, (1964), 1-14; and see also Sterling P. Lamprecht, "Historiography of Philosophy," *The Journal of Philosophy*, Vol. 36, No. 17, (1939), 449-60; Arthur O. Lovejoy, "Reflections on the History of Ideas," *Journal of the History of Ideas*, Vol. 1, No. 1, (1940), 3-23; Richard H. Popkin, "Philosophy and the History of Philosophy," *The Journal of Philosophy*, Vol. 82, No. 11, (1985), 625-32; Paul O. Kristeller, "Philosophy and its Historiography," *The Journal of Philosophy*, Vol. 82, No. 11, (1985), 618-25; and J. B. Schneewind, "Globalization and the History of Philosophy," *Journal of the History of Ideas*, (2005), 169-78.

will be part and parcel of the present study. There are at least three approaches in writing the history of philosophy (Osler 2002). Firstly, an approach that emphasises the context and development of ideas, concentrating on the intellectual, social, and personal factors that affect the way philosophers have thought about their subject—some contextualists limit their accounts to intellectual factors only;³ and others take into accounts broad social and cultural factors as well.⁴ Secondly, the approach taken by analytic philosophers who adopt a critical approach, examining the logic and merit of the arguments of past philosophers almost as though they are engaging in contemporary debates.⁵ And finally, others who use the ideas of past philosophers as to support their own philosophical agendas.⁶

Bearing in mind the merits and difficulties of all these approaches, I shall therefore adopt the first approach since there is a good reason to understand the ideas of philosophers and knowing the world they lived in.⁷ It is also important for one who came from any given culture and tradition to understand—and, of course, understanding does not require to belief of—those of the period in question in order to avoid what Kristeller called the *argumentum ex ignorantia*, that is, the naïve or intentional disregard of well-established facts and the setting forth of ideas contrary to the author’s [or philosopher’s] opinions (Kristeller 1990, ix). Studying philosophy historically enables us to remain faithful to the true meanings of

³ Example includes Jan W. Wojcik, *Robert Boyle and the Limits of Reason* (Cambridge: Cambridge University Press, 1997) and Margaret J. Osler, *Divine Will and the Mechanical Philosophy: Gassendi and Descartes on Contingency and Necessity in the Created World* (Cambridge: Cambridge University Press, 1994).

⁴ This approach can be found in the works of Michel Foucault and his followers. See Gary Gutting, “Foucault, Michel (1926-1984),” in *The Routledge Encyclopedia of Philosophy*, 10 vols., ed., Edward Craig (London and New York: Routledge, 1998), 708-13.

⁵ See, for example, Bernard Williams, *Descartes: The Project of Pure Inquiry* (Harmondsworth: Penguin, 1978).

⁶ The *locus classicus* for this approach is Bertrand Russell’s *The Problems of Philosophy* (Oxford: Oxford University Press, 1997) where he postulates a shadow Hegel that fits his own philosophical purposes; and we can also see A. J. Ayer’s *Language, Truth and Logic* (New York: Dover, 1952) where he interprets Hume as to build his own anti-metaphysical system. For detailed discussion see Richard A. Watson, “Shadow History in Philosophy,” *Journal of the History of Philosophy*, Vol. 31, No. 1, (1993), 95-109.

⁷ For further detailed of these approaches see, Richard A. Watson, “What is the History of Philosophy and Why is it Important,” *Journal of the History of Philosophy*, Vol. 40, No. 4 (2002), 525-8. See also the ensuing discussion by Margaret J. Osler, “The History of Philosophy and the History of *Philosophy*: A Plea for Textual History in Context,” *Journal of the History of Philosophy*, Vol. 40, No. 4 (2002), 529-33; A. P. Martinich, “Philosophical History of Philosophy,” along with the authors’ reply, *Journal of the History of Philosophy*, Vol. 40, No. 4 (2002), Vol. 41, No. 3 (2003), 405-7.

the ideas, and not to appropriate meanings which are of our own constructions. It will thus enable us to escape many, if not all, the limitations of provincialism and parochialism.⁸

Let me pursue this a little further. There is a statement, often made, that the truth of ideas is more important than their historical setting and context. This statement looks as if it is well-grounded, but on re-examination, it seems that it is not really convincing, for the truth of an idea can be established only when we know fully what the idea means, and that what the idea fully means can be established only through its historical setting and context.⁹ Or, in other words, to understand any idea is to understand what the text means, and to understand what the text means is to understand what the author meant; and that what the author meant cannot be understood without knowing the world he lived in, that is, his context.

But there is still another argument which asserts that at the most basic level the context is the text itself and that it says what it says. As can be seen in many recent studies of major philosophers of the past, attention has been paid to particular aspects of their works that happen to be of most interest to contemporary philosophers (Mendelbaum 1977),¹⁰ and some philosophers take a snippet approach to past philosophers and they often extract snippets without even considering the philosophers' aims for the text as a whole.¹¹ I would like to admit that the text itself provides the context and I should like, however, to note that the text does not speak for itself, but we still has to find out what it says and it requires historical exegesis to make it intelligible. We need to know such as when it was

⁸ For example, if we study or discuss Islamic philosophy from what philosophy is currently understood in the West, and to neglect that it must be understood in the context of Islamic civilization, we will fail to grasp its very meaning, nature and role in the history of Islam and tend to misinterpret its teachings, and vice versa.

⁹ See Sterling P. Lamprecht 1939, 459.

¹⁰ For a history of philosophy written in this approach see Bernard Williams (1978).

¹¹ A pioneer of analytic history of philosophy, O. K. Bouwsma, used to say, "Just give me a sentence to analyze. All I need is a sentence." For further reading of his doing philosophy see his "Descartes' Evil Genius," *The Philosophical Review*, Vol. 58, No. 2, (1949), 141-51.

written, how it was written, and why it was written in order to fathom the meaning. To study philosophy without reference to its historical frame of reference is virtually to suppose that the full meaning of ideas inheres in phrases wrested from their context, in those ideas isolated from the body of thought that gave them their significant roles (Lamprecht 1939).

From what has so far been said, it might seem that the context in which a philosopher lives is of great help in understanding his philosophy. But, I do not wish to be understood to be suggesting the incredible position that every idea is true if taken in its historical context, or to be suggesting the ideological use of context. What I am concerned to assert is that the contextual approach is worth to be undertaken. For if we study philosophical ideas in context it can help us to debate these ideas more competently because we will understand more clearly the universe of discourse within which each of the competing ideas is most significant, and I should like to add that historical information can make a difference, and in some cases a substantial difference, for it can make a philosophical text more intelligible. At this juncture, the reference to Leo Strauss is important as he laid down two historiographical principles of philosophy, that is: (1) the historian must endeavour to understand a philosopher as he understood himself, and not better than he understood himself; (2) the fact that a philosophy was elaborated at a particular moment in history and in a particular society does not imply that the content of that philosophy is merely the expression of that historical moment (Strauss 1988).

In short, it should be noted that any meaningful study of philosophy must be both philosophically sophisticated and historically grounded. Hence this is the aim of the present study and, thus, it shall seek to get benefit from the works pursued in any approach to the

history of philosophy (and in terms of this study, it means the philosophical experiments of Descartes and Popper). For a desideratum of both history and philosophy are careful reading, exposition, and analysis of texts.

To sum up my conclusion, I propose to pursue a study on the philosophies of Descartes and Popper in terms of their views on the foundations of knowledge by employing historical (or contextual) approach as an attempt to mirror the philosophical ideas and systems of both Descartes and Popper in their times as they intended them. For I want to know how the medieval tradition actually influenced Descartes and how modern Western tradition in fact influenced Popper; how did Descartes and Popper absorb the philosophy of their predecessors, and what the philosophies of Descartes and Popper really are in the context of the problem situations that they and their contemporaries were trying to solve. The comparison is also philosophically enlightening through a revelation of the similarities and differences between Descartes and Popper, and through an understanding of their struggle to solve the perennial philosophical problems such as the foundations of knowledge.

1.7.2 Comparative Method

It is now time to briefly discuss another important method, i.e. the comparative method, which will be employed in the course of or in particular part of this study. As a matter of fact, most philosophers increasingly interested in employing this method to study the theories of other philosophers, but very few of them have had much to say about this approach.

However, there are several methods that can be gauged from the perusal of a couple of articles which discuss the methodological issues arising from the comparative study of philosophy. To put it succinctly, in order to avoid getting enmeshed in methodological issues unnecessary for present concerns, what seems to be possibly accepted methods of comparative philosophy are philological method, historical method, comparative method, formal-evaluative method, psychological method, phenomenological method, sociological and anthropological method and lastly total integrative method.¹²

Given this fact, it thus seems that I have to develop a special comparative method to be employed in carrying out some parts of the present venture. However, what I have at my disposal in constructing such a method is not a ready-to-use construction materials; instead, it will be devised from scattered fragments which I gathered from several sources which have had something to say about comparative method.¹³ And I hereby present the result of such a humble project.

For the purpose of the present study, it is not, however, my aim to employ this method to investigate “grand theories” of both given philosophers which are called Cartesianism and Popperianism. Instead, I shall occupy myself with middle-range theories or a subset of grand theories namely the foundations of knowledge in the philosophical systems of Descartes and Popper. This involves the schematic analysis which may centre on the problems pertinent to their views on the foundations of knowledge (such as the

¹² For a brief account on these methods see J. Kwee Swan Liat, “Methods of Comparative Philosophy,” *Philosophy East and West*, Vol. 1, No. 1, (1951), 10-15. Beside of these methods we should also take into consideration, before we undertake such a study, some conditions such as: a complete awareness of the structure and levels of meaning of the religious and metaphysical traditions of the East and West; considering the conceptions of the East and West on the hierarchic nature of man’s faculties and the mode of knowledge accessible to him; and etc. For further detailed discussion please consult Seyyed Hossein Nasr, “Conditions for Meaningful Comparative Philosophy,” *Philosophy East and West*, Vol. 22, No. 1, (1972), 53-61.

¹³ See for example J. Kwee Swan Liat 1951; Gideon Sjober, “The Comparative Method in the Social Sciences,” *Philosophy of Science*, Vol. 22, No. 2, (1955), 106-17; Robert F. Spencer, ed., *Method and Perspective in Anthropology: Papers in Honor of Wilson D. Wallis* (Gloucester: Peter Smith, 1969), and see also http://en.wikipedia.org/wiki/Comparative_research.

concept of knowledge, truth, etc.) or about those pervasive attitudes associated with them (rationalism, empiricism, etc.). This method of schematic comparison involves the finding of analogies and, as a result, of specific differences. This process, thus, helps to deepen insight into the structural correlation in philosophy.

Before going further, it is imperative to note that the danger in attempting a comparison is that the starting point, the viewpoint of comparison, may be biased and tend to neglect essential elements in the constitution of human thought such as spatial-temporality, cultures and traditions, and other aspects of life. For example, it is inadequate for us to try to evaluate the seventeenth century philosophical view of Descartes by comparing it from the twentieth century philosophical standpoint of Popper without sufficiently taking into considerations specific features of cultures and traditions which mark off people of different times and places from one another. This argument has a couple of things going for it. First, the fact, which I believe everyone knows, that time is changing. Among other things, this means that customs, mores, institutions, interests, beliefs, and conceptions of life change as well. And all these changes, whether they are derived from or bring about religious, moral, and political problems and conflicts between contemporary science and antecedent world view, lead to the advancement of knowledge.¹⁴ The second thing, which makes this argument plausible, is that individuals are agents in the historical life of mankind in this world, but that they are agents affected by the broader social, cultural, and intellectual currents in their specific environments—and thus we have to notice where our given philosophers (Descartes and Popper) belong in the ongoing

¹⁴ An interesting example, which is pertinent to this study, is the fact that Popper focuses his epistemological theory in science, while in the time of Descartes he treats knowledge in general for science does not yet develop.

traditions of their respective times and milieus. If we fail to take into accounts all these elements in our study it is thus the failure to achieve a meaningful comparative study.

In addition to the aforementioned conditions, comparison must do justice to every item compared both by stating the common analogical pattern and by elevating important specific differences. Both methods deserve equal attention. If the comparison tends to overstress the analogy and to neglect the essential differences, it will inevitably result in a false conviction that all school of philosophy is essentially the same.

To sum up a little, there are many comparative studies have been conducted in the field of philosophy and in the history of philosophy or, at some degrees, of ideas.¹⁵ But what gives my venture worthwhile to be undertaken is that it is not only to compare Descartes' and Popper's views on the foundations of knowledge on the level of ideas *per se*, but it will also take into consideration what makes them said what they said, and the traditions and social-cultural differences of their times. Or in other words, it is philosophical as well as historical.

1.8 Systematic of the Study

The study is divided into seven chapters. Each of these chapters will be summarised here as to provide the reader with a synoptic view of the entire body of the study. And they are as follows:

¹⁵ See for example Ronald Grimsley, "Kierkegaard and Descartes," *Journal of the History of Philosophy*, Vol. 4 (1966), 31-41; Antonia Lolordo, "Descartes and Malebranche on Thought, Sensation, and the Nature of the Mind," *Journal of the History of Philosophy*, Vol. 43, No. 4 (2005), 387-402; Dudley Shapere, "Descartes and Plato," *Journal of the History of Ideas*, Vol. 24, No. 4 (1963), 572-76; H.A.S. Schankula, "Locke, Descartes, and the Science of Nature," *Journal of the History of Ideas*, Vol. 41, No. 3 (1980), 459-77; Sarah Broadie, "Soul and Body in Plato and Descartes," *Proceedings of the Aristotelian Society*, New Series, Vol. 101, (2001), 295-308; G. P. Grant, "Plato and Popper," *The Canadian Journal of Economics and Political Science*, Vol. 20, No. 2 (1954), 185-94; K. K. Lee, "Popper's Falsifiability and Darwin's Natural Selection," *Philosophy*, Vol. 44, No. 170 (1969), 291-302;

Chapter 1: Prolegomena gives an introduction or general outline for the entire study. In this chapter I justify the rationale, the objectives and the significance to undertake a study on the epistemologies of Descartes and Popper in terms of their views on the foundations of knowledge. Besides that I present my analysis of the literature review as to establish the locus of the present study in contemporary philosophical research. In addition to these attempts, I also discuss in more detail a couple of important methodological approaches in philosophical research that I employ in the present study such as expository and constructive approaches. What is involved in this method is an activity of deciphering philosophical literatures on the given subject-matter and in this activity lies an earlier stage of the process of selecting the most pertinent data and omitting the irrelevant ones. The selection and omission of the data is in accordance with the stated research objectives. While in the latter it consists of two other important methods which function as the backbone for this study. They are: historical method and comparative method. In employing these methods in some part of the present venture, the aforementioned process of selecting and omitting is once again involved, but in somewhat extensive manner. Finally, it must be explicitly noted, however, that in pursuing this study I do not begin *de novo*: I begin by accepting what is prior to me and is therefore authoritative over me.

Chapter 2: René Descartes' Philosophical Context briefly surveys the formation of Descartes philosophical experiment and its relation to the seventeenth century French and European intellectual milieus. It is in a way a brief intellectual biography of Descartes by which it is hoped to provide certain understanding of his philosophical thought. The chapter begins with the story of the religious conflicts, marked by the Reformation and Counter-Reformation which developed into a great war of many diverse European peoples

known as Thirty Years War (1618-48), and followed by a brief remarks on the scientific and philosophical revolutions that Reformation has brought about in the sixteenth and early seventeenth centuries Europe. And then entered Descartes into the scene. The remainder of the chapter describes Descartes as the man and the philosopher through eight phases of his philosophical life.

Chapter 3: Descartes on Knowledge and its Foundations describes the philosophical experiment of Descartes through his epistemological project of discovering the new foundations of knowledge. The chapter consists of five sections as follows: Section One explains Descartes' conception of knowledge and his view on the foundations of knowledge; Section Two systematically develops the criteria of certainty that Descartes aspires in his project of epistemological foundation as can be elicited from the whole corpus of his philosophical writings; Section Three presents Descartes at work using methodical approach in accomplishing his epistemological project of finding foundations of knowledge, in which he outlines four rules of method and four maxims of morals to which he adheres throughout the process of carrying out his project, and the method of doubt that he employs as epistemic demolition tools in identifying unshakable epistemic foundation; in Section Four, the result of his epistemic demolition project which leads to the discovery of the new foundations of his system of knowledge is presented; and lastly, Section Five provides a brief conclusion to the chapter. It should be noted at the outset that I attempt at providing a systematic presentation, from the perusal of his writings, of the criteria of certainty that Descartes aspires in his epistemological project. And then I suggest that his first epistemic principle, the *Cogito*, meets such criteria of certainty.

Chapter 4: The Genesis of Karl Popper's Philosophical Ideas describes the development of Popper's philosophical experiment from his early years in Vienna up to his long philosophical career at the LSE. This chapter comprises five sections that imitate the form of Beethoven's revolutionary Symphony No. 9, since Popper was very admiring of him and both of them are revolutionary in their own ways, as follows: Section One, First Movement, or his early formative years in Vienna; Section Two, Second Movement, or from the writing of *Die Beiden Grundproblem der Erkenntnistheorie* to the publication of *Logik der Forschung* in 1934; Section Three, Third Movement, or the philosopher in exile; Section Four, Fourth Movement, describes his long philosophical career from the years at the L.S.E. (1946-69) up to his retirement (1969-94); Section Five, Coda; and Section Six, gives a concluding remarks to the chapter. This chapter pays more attention to Popper's intellectual development within the social, political and intellectual milieus of the *fin-de-siècle* Vienna. For the young Popper—unlike the old one who was only focused on developing his established philosophy—who was open to new influences, willing to adapt and change.

Chapter 5: Popper on Scientific Knowledge and its Foundations which presents Popper's philosophical experiment particularly in the domain of the problem of scientific knowledge and its foundations is divided into four sections as follows: Section One, in which I discuss his conception of knowledge and his view on the foundations of knowledge, including the ideas of fallibilism and critical rationalism; Section Two wherein I discuss his view on Truth; Section Three in which I attempt to reconstruct systematically the ethical foundation of his theory of knowledge; and lastly, Section Four provides a brief concluding remarks on the Chapter. It should be noted here that in this chapter I provide a

new interpretation of Popper's idea of fallibilism from the point of view of the theory of basic conviction. From this point of view, I argue that Popper develops his theory of knowledge based upon, and within the perimeter of, his fallibilist conviction. Next, I also suggest that critical rationalism is nothing more than a logical, necessary consequence of the idea of fallibilism.

Chapter 6: A Comparison between Descartes and Popper on the Foundations of Knowledge compares, philosophically and historically, their views on the problem of the foundations of knowledge, and tries to shed some light on issues especially on the concept of knowledge, truth and methods in the historical growth of human knowledge. The points of comparison that I consider are as follows: (1) Knowledge-situation and philosophical battlefield; (2) Conception of knowledge; (3) Foundationalism versus fallibilism; (4) Descartes' justificationism and Popper's falsificationism; (5) Descartes the rationalist and Popper the critical rationalist; (6) Descartes' manifest truth (*Veritas Dei*) and Popper's regulative ideal of truth; (7) Scientific method; and (8) Epistemology and ethics. Throughout this chapter I point out the fundamental differences and the remarkable similarities in the epistemological tools, instruments, concepts, and methods that Descartes and Popper develop in their philosophical experiments of dealing with the problem of the foundations of knowledge.

Chapter 7: Conclusion makes an overall recapitulation of the whole study based on Descartes' and Popper's views on the foundations of knowledge and on the thematic comparison of their epistemological views pertaining to such problem.

1.9 Significance of the Study

One might surely ask what is the reason and importance to embark a study on epistemology, especially on the foundations of knowledge, rather than other topics in this particular time. Here I wish to offer my answer and to justify the case for undertaking a study on such a topic.

In the first place, I choose this topic for the fact that epistemology still receives so much attention, whether it is among professional philosophers and students of philosophy or general readers, since, I believe, it constitutes the very heart of philosophy. Given this fact, this study is hoped to bring together into single study of two philosophical experiments in dealing with the perennial problem of philosophy, that is the problem of the foundations of knowledge. Here, I think, lies the *prima facie* significance of this venture.

Secondly, it is now seems imperative to inquire into the problem of knowledge since we are now living in the global village where knowledge rules, and it has brought along the explosion of information which makes most people confused and perplexed. To ascertain this proposition, I would like to echo a poetic bemoaning of T. S. Eliot (1980) in his *Choruses from 'The Rock'*:

All our knowledge brings us nearer to our ignorance,
All our ignorance brings us nearer to death,
But nearness to death no nearer to GOD.
Where is the Life we have lost in living?
Where is the wisdom we have lost in knowledge?
Where is the knowledge we have lost in information?

And finally, this schematic and structured study is considerably important for me as it is hoped to set the stage for future formation and formulation of my own philosophical views in the same way as has been put by Gilson that “*the experience of studying (the history of) philosophy is the starting point for philosophical reflection*” (Maurer 1990, 26).