THE LIMITS OF KNOWLEDGE AND PROBLEMS WITH UNDERSTANDING AS ESSENTIAL FOR KNOWLEDGE

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ABSTRACT

In this 21st century, the belief of many educated and rigorous thinkers is that human knowledge, about what there is and our place in it, is limited. Martin Heidegger said that we are thrown into the world knowing not whence or whither. I would add that we don't even know much about the "now". The problem, as it is seen today, is not so much a lack of facts or information, but rather the limits of the knowing subject.

In this paper, I want to consider what philosophers, in ancient India and then in the western world have taken knowledge to be. In so doing, I want to show that, according to most philosophers and thinkers living today, a belief in certain knowledge has diminished greatly. Also for those philosophers of the post modern movement, certain knowledge is impossible.

Since understanding is necessary for knowledge, I also want to explore understanding and problems of understanding which prevent or limit knowledge.

KEYWORDS: knowledge, understanding, comprehension, critical thinking, complex reasoning, *Nyaya*, means to knowledge, methods of knowing.

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Introduction

The objectives of this paper, as stated in the abstract, are briefly: 1. to consider what knowledge was taken to be in an ancient Indian school of philosophy and also in the long history of western philosophy, and, in so doing, show that a belief in certain knowledge has diminished in western philosophy; 2. To consider understanding as necessary for knowledge and the problems of understanding which limit knowledge.

Let us take "knowledge" to mean a discursive process of the mind and result thereof². The result can be taken as the sum or range of what has been perceived, discovered or inferred. I will define understanding when we turn to that subject.

In the ancient Hindu Philosophy School of Epistemology and Logic called *Nyaya* (founded about the 3^{rd} or 2^{nd} century B.C.E.)³, there is a very interesting account of knowledge. In the *Nyaya* account of knowledge, there is a focus on 1) the knower, 2) an object to be known, and then 3) an object known. Also, knowledge of the object is dependent upon the means to knowledge. For the *Naiyayikas*, the means included:

- 1. Perception in two stages: first, indeterminate perception which we would describe as sense perception. Then determinate perception which involves an identification of a substance, properties, and classes, i.e., if I saw my girlfriend, Rama Kohli, walking down the street in India, I would see not only Rama, but a class of female or womanhood.
- 2. Inference: the logical process of deriving a conclusion from premises. Unlike perception, which is direct knowledge, inference is indirect as it follows from perception.
- Comparison: the mental process whereby one is able to learn about an unknown object by a comparison to a known object (s). For example, if I had never seen a moose, you might

² The Heritage Illustrated Dictionary of the English Language, Vol. I., Houghton Mifflin Company, Boston, C. 1969, 1971, 1073, 1076, 1078, 1979.

³ It is difficult to accurately date much of Indian philosophy. This is basically because of the belief in rebirth, hence rather than a linear view of life, as monotheistic traditions hold, which lends itself to dating, one is focused on cycles of life (*samsara*). Nonetheless, *Nyaya* developed about the time that Aristotle was developing what we today call "Traditional Logic". When I taught sentential logic, I always included Aristotle's traditional logic as well as modern logic.

describe it to me as rather like a deer, but much larger and dark in color, etc.

- 4. Testimony involving the speaker and the hearer:
 - a. The Speaker: the careful consideration of taking only that testimony which is credible This means testimony is only accepted by one who is an authority in his or her field; the person is telling the truth, i.e., he or she is not a liar or engaged in deception; and he or she is of sound mind.
 - b. The Hearer: the listener must be attentive, have the mental acumen to understand what is being said, and is of sound mind.

Actually, I much prefer the account of *perception* given by the *Nyayayikas*, as a *means to knowledge*, to the different western accounts of it which I studied both in undergraduate and graduate school⁴. Also, I am very taken with the fact that when analyzing testimony, we have to consider not only the person giving the testimony, but the listener.

In addition to the *means to knowledge*, the *Nyayikas* consider *ignorance*. Ignorance, i.e., not knowing, refers to the lack of indeterminate perception, i.e., sense experience, or determinate perception. An example of the latter would be if I were shown an object which I could not identify. There are many such items in most of our lives. Recently, a repair man showed me a part which he had to replace in my water boiler for the house. I could not identify it or its functions.

Besides giving an explanation of ignorance, the *Nyayikas* have a wonderful explanation of *errors* in perception. They speak of the snake and the rope, as many Indians have done historically. Imagine that several of us were out walking together one evening in Kerala, and one of our group cried out, "I see a snake." Then imagine that one of us walked over and

⁴ Some of these accounts of perception, especially that of Immanuel Kant, are rather vague. What sensible content is coming into the mind, if space and time are structures of the mind? Kant includes space, time and the categories in what he calls the "Principles of the Understanding" and he takes them to be Form as opposed to Content. So Form structures the sensible content, My question is what is that content? Color, yes. What else?

saw a twisted rope. What has happened? According to the *Nyayikas*, the properties of a snake were mistakenly applied to a rope.

Turning again to the means to knowledge, with which the *Nyaya* School of Epistemology and Logic was concerned, let me give an historical overview of western philosophy focusing on both the means to knowledge and the methods of knowing, as well as an ever increasing view as to the limits of knowledge. Then I will consider how *knowledge is dependent upon understanding*, and how problems in understanding interfere with and limit knowledge. Finally, I will consider *critical thinking* and *complex reasoning* CTCR as a deliberate mental process, which can be learned, that needs to be applied to understanding in order to gain what I call reliable knowledge. First let me list the *means to knowledge*, and then at least mention what is meant by the *methods of knowing*, some of which I will discuss in the history of knowledge in western philosophy.

Four means to knowledge:

I take the means to knowledge to be basically four: They

are:

1.	reason:	
	a. as thinking.	
	b. in the logical sense a deriving a conclusion	
	from premises	
2.	sense experience.	
3.	intuition.	

4. revelation in the Heideggerian sense of what is given in experience.

Different groups of philosophers have focused on one or more of the means to knowledge. The rationalists believed that reason determined knowledge. The empiricists believed that sense experience determined knowledge. Intuition, about which I have written a book⁵, was not accepted by many westerner philosophers after the scholastics. Two exceptions were Spinoza, and of course Bergson, who actually analyzed it. However, in India, more precisely in Hinduism, Jainism and Buddhism, intuition is an accepted means to knowledge, and in Hinduism it is also a higher form of

⁵ Hope Fitz, *Intuition: Its Nature and Uses in Human Experience*, Motilal Banarsidass, India, 2001.

knowledge. I disagree with the Hindus, and have argued that it is only one means to knowledge.

Revelation in the Heideggerian sense has to do with what is given in experience and how humans understand it. However, in a deeper sense, Heidegger recognized that all four means to knowledge are needed in order to gain knowledge.

Various methods of knowing:

Methods of knowing have to do with a disciplined approach to subject matter in the quest for knowledge. Usually the approach involves rules or principles, or theories, to follow as one undertakes the study of some subject. One of Plato's methods is the "Recollection Theory", which presupposes a belief in rebirth. His other method, the "Socratic Dialogue" has to do with how we should engage in dialogue in the quest for knowledge. I will discuss this shortly.

Descartes' "methods" refer to the rules which he set for himself about his research and his character, before even writing the *Meditations*. More often, when we think of Descartes and method, we think of his famous "Cartesian doubt". I think that *Cartesian doubt* or the *Cartesian method* is probably one of the greatest methods that anyone ever created. It is so simple, yet so profound, especially if we separate ourselves from the certain knowledge in which he believed. What could I say to any of my students or myself that would be much more beneficial than to hold in abeyance or *suspend judgment* until you or I have sufficient evidence to accept a belief.

There are different methods of knowing, and in our recent period of philosophy, including the Post Modern philosophies, method or methodology has become essential for understanding, hence knowledge.

Having touched upon methods of knowing, let me turn now to a brief history of knowledge within western philosophy which traces the means to knowledge, but also involves the methods of knowing.

The Rational/Empiricist Argument About the Means to Knowledge; Kant's Resolution of the Problem; and Heidegger's Rejection of Mind Dependent Theories of Knowledge:

What is clear in the history of western philosophy is a change from a belief in certain knowledge about the world to a *questioning of this belief* and in this recent period, a rejection of it, first by David Hume and then by the post modern philosophers. Also, we can see that the means to knowledge, and the methods of knowing had a great deal to do with this change.

Rationalists:

The rationalists all believed that reason determined knowledge and it could take us beyond the sensible world. The famous rationalists were Plato, in the ancient period of philosophy, Descartes, Spinoza, and Leibniz in the modern period.

Plato:

As we know, with Plato, the senses were not to be trusted. This was what people used in "the Cave". We had to appeal to reason and the two methods of knowing, namely, the recollection theory which was based on rebirth, and the Socratic dialogue wherein we seek truth together by engaging in a dialogue in which we ask questions and apply reason to what is said. "Reason", in this logical sense, means deriving a conclusion from premises. In critical thinking, we would say that the *reasons* for a belief or a conclusion to an argument have to be sufficient and good. "Good", in this context, means either: true or factual, or reasonable to accept and relevant to the belief.

Descartes:

Descartes believed that reason, not sense experience could help us to justify our beliefs. So, he applied his method of *Cartesian doubt* to sense experience. In other words, he suspended judgment about knowledge gained by the senses until he had, to his own satisfaction, logically proven: 1. a belief in a self or mind, as a reasoning or thinking being, which is distinct from the material world; 2. a belief in the existence of a God who was perfect, i.e., not flawed, and thereby could and would not deceive us about what we perceived. Only then, could he be sure that the perceived world was the real world.

Spinoza:

Spinoza, although in my view, a genius and forerunner of those who accept a natural explanation of reality, still insisted that God or nature was infinite and determined. However, I tend to think that he may have

meant that the laws of nature were determined in the sense that they are regulated and dependable.

Leibniz:

Leibniz' metaphysics and epistemology are a mystery to me, having studied him, in depth, at graduate school: I cannot understand how he expressed a belief in free will after writing the Monadology. When I introduce his theory to my students and they learn about the "closed windows" of the monads, and realize that, according to Leibniz, one does not physically interact with people and things in the world, my students just stare at me. Then, after some deep study, they realize that no matter what Leibniz says about free will, there is "no free will" in the usual sense of the expression. How could there be a free will when everything about an individual and what will happen to her or him was known in God's mind before he instantiated (Leibniz' term) or created this Best of All Possible Worlds, i.e., the world with the greatest variety and fewest laws? God's knowledge is not like human knowledge. His knowledge is what Leibniz referred to as "necessary truth". Humans, by contrast, can have necessary truth, i.e., be certain about things in the world, but when it comes to the future, humans can have only *contingent* truth. The long and short of this is that humans may think they are free, but their past, present and future are known by God, and only as such they are certain. This is what I call being "programmed"!

Empiricists:

Empiricists believe that sense experience determines knowledge. This does not mean that reason is not employed in human understanding, hence, knowledge. It does mean that ideas and/or beliefs have to originate in sense experience. It was John Locke who founded the philosophy, but David Hume carried it to its logical conclusion.

John Locke:

The first empiricist is the same great individual, John Locke, who influenced our founding fathers concerning natural rights as expressed in our Declaration of Independence. Regarding empiricism, he came to believe that knowledge is determined by sense experience. He also believed that ideas coming into the mind were simple. In addition, he attempted to account for the way that the mind brings together or associates ideas.

Locke did cling to old beliefs which did not fit with his new found means to knowledge. He still believed in substances in the sense of fundamental realities which underlie what we perceive. Two such substances were a self and God. Yet if all ideas are separate and simple, they arise from sense experience, and all that joins them are natural associations of the mind, how could one gain an idea of a self or a God? It took David Hume to realize this and to write about it.

David Hume:

David Hume is a great and pivotal figure in philosophy⁶. It is Hume who first gave a theory of knowledge that rejected certain knowledge about the world. Also, he has influenced so many thinkers living today. If one would question him about the laws of logic or mathematics, he would just scoff and say that these are man-made systems and there is certainty in them, but that certainly has nothing to do with the real world. As far as he was concerned, knowledge of the world is only *probable*. Also, he advised people to burn the books on metaphysics and religion, as these were meaningless.

Given Hume's philosophy, a belief in an abiding self and God are impossible. Such is the case because he, as Locke, believed that all incoming ideas (impressions) are simple, and based on sense experience. Also, the separate ideas are naturally associated by the mind, based on what he called a habit or custom to expect the future to resemble the past, and this habit was caused by what he called a "constant conjunction". But this is a mistake: As I argued in my Masters Critique⁷, because some ideas are only frequently associated. Given Hume' epistemology, there is no necessary connection between ideas, hence no self and no God, and no provable cause and effect.

⁶ Hope Fitz, *The Problem with Natural Associations in Hume's Treatise*, my Master's Critique on David Hume, Claremont Graduate School, Claremont, Calif., Advisors: Morton Beckner, Charles King.

¹ The Problem with Natural Associations in Hume's Treatise, Masters Critique, Hope Fitz, Claremont Graduate School, March 7, 1977, Advisors: Morton Beckner and Charles King.

Immanuel Kant Resolved the Rationalist/ Empiricist Debate: Immanuel Kant:

In my judgment, Immanuel Kant is one of the two greatest western philosophers who ever lived. He is superseded only by Martin Heidegger. What Kant offered instead of rationalism or empiricism, was a philosophy in which there are in the mind necessary conditions for humans to acquire knowledge. He, as Plato, spoke of Forms, but the Forms which Kant considered were in human minds, not transcendent to the world. In effect, for Kant, Form was synonymous with "The Principles of the Understanding" which structure the sensible content of experience. These include: space, time and the categories. So even though all knowledge begins in sense experience, *it is not determined by sense experience*. Quite the contrary, the mind has to structure the content in order for there to be a concept. He said that form without content is empty; and content without form is blind. So, there must be sensible content or there is no knowledge. There is only what Kant called "*Idea*" in German, which allows for speculation, but not knowledge.

Poor Kant, he was a devout Christian and in his epistemology, one could only speculate about God. This was the case because God was not a concept, i.e., it had not been formed by form and content, hence it was only an idea that could not be proven.

The overall trouble with Kant's epistemology is that as mind dependent, humans only know how things appear to them. They do not know what they are apart from the way that they appear to us. Kant has the famous saying that we do not know the *Dinge an Sich*, i.e, the Thing in Itself. This claim truly changed philosophy.

The phenomenologists, in response to Kant's claim, held that we should take the "thing it itself" as it is in its appearance. So, if we did that, there would be no "wall" between what we take to be an object and what it is in itself. The great cry for phenomenologists was: "to the things in themselves"!

As we shall see, Martin Heidegger held that Kant's theory of knowledge ruled out and sacrificed the possibility of being in the presence of Being. I will consider Martin Heidegger's epistemology here. However, I will also refer to it when I turn to the subject of understanding, because he based his epistemology on what was given in experience, and human understanding of that experience.

Martin Heidegger Rejected Kant's and all Mind-Dependent Epistemology:

Martin Heidegger took Kant to task for his theory of knowledge which did not allow for one to be in the presence of Being. In his philosophy, Being was the subject of his studies and phenomenology was the method of knowing. He was not aware of non-western philosophy, but except for that, he was the most diligent of scholars. He was a philosopher and a philologist who traced his ideas of Being back to the pre-Socratics. Also, when you understand the language which he uses, he makes more sense than almost any philosopher whom I have studied. His language is difficult, as is Kant's, to a lesser degree, because Heidegger was concerned that if he used philosophical terms in the old way, his readers would not be able to understand his thoughts, as they would fall into the same old mental ways of thinking.

Focusing now on Heidegger's epistemology, there are two aspects of what we would call the physical or material world, and what he called "Revealed Being". There is *es gibt*, or what is given in experience. There is also *Dasein*, which literally means, being there. *Dasein* is there to receive what is given in experience, and because the essence of *Dasein* is understanding, *Dasein* has the capability to understand what is given in experience. We humans are the only *Dasein*, so if we are open and receptive⁸, we can understand what is given in experience. *Dasein* and what is given in experience can only be separated for purposes of analysis. Again, together they form what Heidegger called "Revealed Being."

A crucial aspect of Revealed Being, is that in the quest for knowledge of Being, there is a shifting horizon of understanding. For the individual, the horizon shifts due to one's open-ness or receptivity, or lack thereof, which are affected by mood, health, interest in a subject, enthusiasm for learning, level of intelligence, etc. Also, there is a deeper shifting horizon of awareness. The individual is also affected at this level of awareness by the same conditions, afflictions, and interests as with understanding. At a collective level, it is the case that, in general, humans are gaining in their understanding of life and also in their awareness.

⁸ Hope Fitz, Intuition as an Integral Process of the Mind, my Doctoral Dissertation, Claremont Graduate School (now Claremont Graduate University, Claremont, California, 1981.

As Heidegger pursued his studies of Being, he realized that Being is not an entity. It is a happening. He also realized that Being is limited to human understanding, hence, he had to explore the regions of the human mind to discover Being. He did, but it was only in his later works that he came to understand that there are regions of understanding which each individual has and that the regions make up one's world. Of course regions of one person's mind can overlap with regions of another when we share our thoughts with others. Finally Heidegger spoke of "that which regions".

I was questioned about "that which regions" by Herbert Dryfus, the renowned Heideggerarian scholar at Berkeley, when I was studying the "Great Chain of Being" at Berkeley with the well known theologian, Huston Smith⁹. Professor Dryfus asked me if I believed what Heidegger said about "that which regions" in the great little book called, *Discourse in Thinking*?¹⁰ He thought it was a bad English translation of the German. He did not believe that the expression referred to an agency. I disagreed, as I think that Heidegger was talking about some kind of agency. After all, he often said, "Heed the call." Whose call? We don't know. Also, he believed in a source of Revealed Being. However, he was reluctant to use the term "God" for this agency, except for his books on Poetry and Poesy. He believed that if we attributed experience to a God, we would explain whatever happens in light of God or God's plan. He wanted each of us to take the journey of life trying to understand our experience, and not explaining what we experience by God's will or God's design.

Ultimately, Heidegger made a distinction between Being and the Being-ness of beings, which he took to be that by which all beings emerge into being and endure¹¹. He believed that this was the source of life. We can gain insight into this source, but not by ratiocination. We cannot impose reason or categories upon the Being-ness of beings. Actually, it seems to me that in order to experience the Beingness-of beings, one has to change

⁹ I had received an NEH Grant with 20 other persons in the U.S. for a Summer Seminar to study the "Great Chain of Being" with Huston Smith at the School of Religion, at Berkeley. I was the only woman and there were 19 men, one in psychiatry, one is history, and the rest were either in philosophy or religious studies. This was in 1986.

¹⁰ See Martin Heidegger, *Discourse on* Thinking, *a translation of* Gelassenheit (1959), translated by John M. Anderson and E. Hans Freund, Harper Torchbooks, Harper and Row Publishers, 1966.

¹¹ In my Doctoral Dissertation, I deduced that this is what Heidegger meant by the source of Being or the Being-ness-of beings.

her or his attitude. The way that Heidegger describes this is that: 1. One must be thankful (*dankbar*) for life. (This reminds me of Neitzsche, about whom Heidegger wrote two volumes.). 2. One must actively wait for Being or the source of Being to show itself, never trying to impose structure upon that which is unrevealed. We can however, gain some insight into it, and even gain what Heidegger calls transcendent space.

I could say so much more about Heidegger's account of Being and the Being-ness of beings, but because of constraints with regard to the paper, let me just say that the method which Heidegger used to pursue Being was phenomenology. In a wonderful book written about Heidegger's philosophy by Father Richardson, a Jesuit Priest, Heidegger wrote the preface¹². He said that he was not an existentialist, although he did appeal to existentialist themes such as authenticity, and death as a limit of life. He maintained that he was a phenomenologist and that he used phenomenology to discover Revealed Being and the source of that Being.

Phenomenologists differ as to what they take phenomenology to be, but in general, they hold that phenomena, or what comes in via experience, is what it is in its appearance. Also, many phenomenologists hold that it is not limited by factual or scientific knowledge. So, in effect, by use of an *epoche*, or suspension, they hold in abeyance such requirements, letting in dreams, aspirations, feelings, etc.

In general, the method which phenomenologists use is twofold. First they carefully observe the content of an experience. Then they analyze that content as to its meaning. This is where existentialism and phenomenology come together. They are both concerned with meaning.

Heidegger differed from other phenomenologists of his time, in that he was not working on a level of experience of phenomena, but on a deeper ontological level. As stated earlier, he wanted to explore the regions of the human mind in order to understand Being. Later, he explored the source of Being, namely, the Being-ness of beings.

In my judgment, Heidegger has presented thinkers with a philosophy that does away with the problems of separation between the mind and the object which present themselves in all mind-dependent theories. I think that his philosophy makes great sense. However, the Post

¹² William J. Richardson, *Heidegger: Through Phenomenology to Thought. Preface by Martin Heidegger* (1963), Fordham University Press, 1993.

Moderns, reject the idea of a "thing in itself". Let us very briefly look at their position.

Post Moderns:

Generally speaking, post moderns and their successors can trace their roots to a rejection of structuralism. Structuralism has different meanings depending upon the field of study. However, speaking broadly, it is a paradigm in sociology, anthropology, psychology, linguistics and semiotics according to which elements of human culture must be understood in terms of their relationship to a larger overarching system of structure¹³. It is used as a tool to uncover the structures that underlie all the things that humans do, think, perceive and feel¹⁴.

Followers of structuralism rejected existentialist themes of human freedom and choice and focused on the structures that determined behavior. What is important for the present subject of knowledge is that according to structuralism, especially as practiced by linguists and those involved in the study of semiotics, there is a structure to the relation between language and reality. Hence, there is an ontology.

Post modernism, or, more precisely, post structuralism is an ongoing movement which basically rejects a belief in ontology, hence *certain* knowledge. Also, there is a belief that in language, which is binary, what is taken to be "truth" is determined by a power structure. This belief seems to be gaining in acceptance.

Two great philosophers who influenced philosophical thought regarding the foregoing beliefs, were Michele Foucault (1926-1984) and Jacques Derrida (1930-2004). I have a friend at the university who is a scholar of Foucault's philosophy¹⁵. She often speaks of him as a "post-phenomenologist". What I take this to mean, in laymen's terms, is that Foucault would never accept that we could know the "thing in itself"¹⁶.

¹³ http://en.wikipedia.org/wiki/Strucuralaism.

¹⁴ Ibid.

¹⁵ Mary Curran is an Associate Professor of Geography, at Eastern Connecticut State University. Her Ph.D. was entitled, *Pigs in Space: Ghosts, Gender and Sexuality in a Debate about Regulating Industrial Hog Farming in Kentucky.* The dissertation included the thought of Michele Foucault. Mary received her Ph.D from the University of Kentucky. Lexington, Ky.

¹⁶ Instead he offered a theory of discourse which involved categories pertaining to a particular subject.

Following the line of post structuralism, because of the way humans gain knowledge, they could not know what Heidegger took to be phenomena, i.e., the "thing in itself" or the thing as it is in its appearance. Foucault and other post structuralists would say that the content of an experience is not a discreet thing. To be more specific, each of us has developed our own "world". This is not just due to circumstances, but because of the symbols, including words, that we have learned and the particular meaning(s) we each attach to those words. So, in a sense, we all live in our own realm of knowledge, and because of it, no two of us ever read the same book. We read traces of what was written (Derrida).

Derrida not only rejected ontology, but he made clear that because language is binary, something is defined and something is excluded. Furthermore, the binaries are artificial and harmful because they are based on power. The idea behind the binaries has been to divide categories in order to rule.

Based on this very brief history of how our thought has changed as to what can be known, I think it is clear that starting with Hume, but much more pronounced with the post moderns, especially, the post phenomenologists, there is a rejection of a belief in the *certainty* of knowledge. Of course, the phenomenologists still hold to a belief in "the thing in itself". Also, other older schools of philosophy do not accept the view that there is no ontology.

Having considered the means to knowledge and some of the methods of knowing, I would now like to undertake an analysis of *understanding as comprehension* which is necessary for knowledge and the problems and issues associated with understanding.

Understanding:

Earlier I suggested that we take "knowledge" to mean a discursive process of the mind and the result thereof. The result can be taken as the sum or range of what has been perceived, discovered or inferred¹⁷. Now, I would like to suggest that we accept a definition of "understanding" as the *comprehension necessary for knowledge*. Of course, there is partial as well as full or complete understanding. Given these rather broad and loose

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¹⁷ The Heritage Illustrated Dictionary of the English Language, Vol. I, Houghton Mifflin Company, Boston, C. 1969, last printing 1979.

definitions, let us examine understanding as to the problems or issues that arise with understanding.

At this point in time, there is little agreement as to the how humans understand and what is required for there to be understanding. Also, there are a number of problems and issues. They include: *myths* which, as Joseph Fletcher, the great expert on the subject said, we still hold; *identity*, which is a subject that we philosophers need to plumb; *hermeneutics*, or interpretation of what is experienced. Also, there is what Heidegger referred to as an "open-ness" or receptivity. Let us examine the foregoing problems and issues in order to gain some insight into the subject of understanding. Then let us see how critical thinking and complex reasoning need to be applied to what is understood, in order to gain knowledge. First let us explore myth.

Myth:

As I define the term "myth" in its broadest and most positive sense, it is: a sacred story of a people, the social purpose of which is to relate and justify their most fundamental beliefs and values. Of course, there are other more narrow meanings of the term. Let us explore a few.

We first see myth explored in Plato's philosophy. In his levels of knowledge, he put myth at the most basic level.

4. *nous*, i.e., knowing why which involves evaluation as well as *diania*.

- 3. *dianoia*, i.e., knowing that.
- 2. *pistus*, i.e., skills or knowing how.
- 1. *eikasia*, i.e., myth story telling.

What seems clear from this ordering of knowledge, is that myth is what we appeal to when we don't have the other forms of knowledge. We tell one another stories that either support a belief system or to help one another to learn about life. Just imagine that we were living in a primitive stage of our development, when most of us were uneducated, and we had no information coming to us from authorities, except perhaps for priests, shamans, or some wise person in our clans or tribes. How would a woman learn about child birth except from women who had had children and would offer their personal narratives about birthing? Also, how would men know which crops to plant and how to do it effectively without garnering stories from other men who had successfully developed and harvested those crops? We would resort to myth as story telling. Returning again to an analysis of myth, what we must keep in mind is that it involves fiction, and fiction is not fact or evidence. Despite this fact, myth does allow for speculation and this is a positive thing.

In my paper "Plato and Gandhi: Justice and *Ahimsa*", which I delivered at the 9th Congress of the International Society of Universal Dialogue, in Olympia, Greece, in 2012, I argued that myth allows for speculation. Think of Plato needing to speculate about what would bring about justice or order in the city-state when he believed that democracy, as practiced in his time, did not work.

Because Plato believed that the *cosmos* (reality as understood in his time) was ordered, hence harmonious, he believed that the city state should be ordered and thus harmonious. Of course, if the city state were to be ordered, he reasoned that its citizens, especially those who ruled the citystate, must be able to achieve order and this would be dependent upon the development of their character. (What we call "character," he called "soul".)

Focusing on the ordering of the city state, Plato envisioned that it would be ordered as to classes. Also, each class would be governed by a particular Greek virtue. Governing the city state would be the Guardian Rulers who were wise, hence just. They were in power over the other classes, hence, justice would prevail. However, "justice" for Plato did not have to do with fairness nor distribution. It was a kind of ordering that brought about harmony. The next class in the hierarchy would be the Guardian Soldiers who had to be courageous. Third, would be the masses, comprised of the merchants and skilled workers who were to be temperate, i.e., moderate in their behavior. An overarching virtue was wisdom which, because it involved the entire city state, was the virtue of the guardian rulers.

In order that the Guardian Rulers could be counted on to be just in their decisions for the city-state, Plato believed that they should be sequestered and taught by the state. They would be schooled until they were about fifty years of age. Then, they would be tested to see if they could rule with wisdom and justice. Based on this testing, one person would be chosen to be what Plato called the "Philosopher King." This person would rule, but the other Guardian Rulers would assist in governing the people.

Regarding the education and training of the Guardian Rulers, Plato realized that even the most advanced education could not guarantee that the

Guardian Rulers would always be just. What was needed to establish this was the development of character of the individual.

Plato thought of the character or soul of a person as having three parts, namely: the rational, the appetitive having to do with desire, and the spirited, which, according to two of the earlier Plato scholars, is concerned with higher disciplined emotions¹⁸. According to Plato, reason should be in control of the appetites and the spirited part of one's character. Of course, this would be necessary for the Guardian Rulers who would rule with justice. Yet, just because one develops his or her character to a very high level, does not mean that she or he will always act justly. What is needed is an appeal to the many ancient myths in *The Dialogues of Plato* according to which one is purified in rebirth. In the process of purification, one becomes more virtuous. The highest virtue is wisdom, and the highest stage of wisdom is justice.

We have briefly considered Plato's appeal to myth as a guarantee that the Guardian Rulers would always be just. Let us turn now to his use of myth as speculation which could be viewed as an overarching ordering of the *cosmos*, the city state and the individual.

Plato's Theory of *Eidos*, i.e., Forms, a myth enabled him to connect the cosmos with the ordering of the city state and the persons who govern that state. To be more precise, because Plato believed the cosmos to be ordered and thus harmonious, he thought that the city-state and the citizen's characters (souls), especially the guardian rulers, could and should be ordered. To make this connection binding, he developed his theory/myth of the Forms, i.e. the eternal verities which could not be known via the senses, and he linked humans to them by the ancient myths of purification which takes place in rebirth. I have written about the Forms in other papers. However, in order to stay focused on myth, I will simply say what I usually tell my students, namely, that one can generally classify the Forms themselves into Standards or Principles, Eternal Truths such as the laws of mathematics or logic, and patterns for things and beings in the world, which I take to be an attempt on Plato's part to give some kind of causal

¹⁸ Paul Shorey, What Plato Said, The University of Chicago Press, Chicago and London, C. 1933, and Alfred E. Taylor, *The Mind of Plato*, Ann Arbor Paperbacks, The University of Michigan Press, Third Printing, 1969. Both Shorey and Taylor suggest that the spirited part of man is the more disciplined emotions having to do with judgments.

explanation for the various species of living being and things in the world. I also tell my students that Plato had no knowledge of evolution. Hence, he did not know how to explain change in the world. It took his student Aristotle, with his four causes of change, entelechy, as a driving force, and his theory of actualization to at least anticipate our theories of evolution, even genetic coding (The oak tree is potentially in the acorn.)

What we see about Plato's use of myth is that he speculated about *Eidos*, so that he could connect the ordering of cosmos with the ordering of the city state and its citizens. Also, there was the need to establish the ancient myths of purification of the soul which takes place in rebirth in order to guarantee that the Guardian Rulers would always be just.

Leaving the use of myth by Plato for speculation and to establish a claim to knowledge, let us focus very briefly upon the role myth played in Aristotle's philosophy. We, today, often think of Aristotle as a pre scientist, i.e., someone living before science became a discipline, who had a scientific mind and engaged in scientific endeavors, but had no access to or understanding of the scientific method. For Aristotle, we would say that he was a man of reason. Yet he did appeal to myth. Think of the First Cause of his metaphysics. That First Cause was not only pure actualization, but an unmoved mover and an active mind.

Turning to the present, our theoretical scientists still use speculation to move from *what is known* to a *theory that will explain what is not known*. Think of the great astrophysicist Stephen Hawkins, and his theory of "black holes". It is a theory, and not all of his fellow physicists agree with his theory. On another level, combining the macro and the micro levels of physics, think of those many physicists who are devoting their careers to a String Theory which they hope will bring together our theories of the universe and stellar evolution that are based upon, but not necessarily in agreement with Einstein's general theory of relativity, with the theories in Quantum Mechanics having to do with the atomic and subatomic particles, forces affecting them, etc. These are theories involving *speculation*.

The difference between myth and scientific theories is that the speculation used in the realm of science is based upon both scientific evidence and the scientific method. Myth is not based on this kind of evidence. Yet, we must remember that neither scientific evidence, as we know it today, based upon what is objectively verifiable, and the scientific method, were not available to thinkers in the past. It was only in the 16th

century that Bacon pleaded with thinkers to quit appealing to authority from the past and start testing. However, a word of caution is due here, especially for those who fall into the camp of scientism. Just because the scientific method was not known, hence used, in the past, does not mean that we should ignore speculation in the past which was often based on myth. It just means that we need to be aware that fiction is involved in myth, and because of this, we must be cautious about any claims to certainty.

Because myth allows for a belief in certainty, there have been claims to knowledge that have been the bane of existence for humans, and, in fact, for all life once humans gained the power over life on the planet. This has been the case with religions, especially those of the monotheistic traditions which each see themselves as following God's plan. All religions are based on myth, old stories told by early members of the faith. Let us leave aside for the moment whether there is truth in some of these myths or not. Surely, there may have been prophets or seers who received or had insights into reality, but from these insights, humans have built myths about creation and the scheme of thing entire, and from these myths were formed institutions, i.e., religions. Many of the religions have a history of oppression, torture and murder, based on the belief that each religion had the only view of reality and that one who did not share it was an infidel, hence not worthy of consideration or concern.

Before leaving the subject of myth, we need to recognize its value as a *teaching tool*. Take for example, the Greek Tragedies or the Hindu *Mahabharata*. Yes, there is war and violence in these writings, but Greece and India were warrior societies when these were written. However, there are many lessons about life and forming character within these great works of literature. Having considered the nature and some of the uses of myth, let us turn now to a subject which has a direct impact upon understanding, namely, identity.

Identity:

Of late, I have begun to internalize how important having a sense of identity is to an individual, and for an understanding of oneself as well as all that one experiences. I internalized this when I heard on public radio, not long ago, that the person who had killed John Lennon thought that in so doing he would become John Lennon. Without self-identity, people often identify with celebrities, famous people, causes, religions, or political groups. In extreme cases, they identify with cults or terrorist groups which are often tied to religious or political groups.

Thinking on a spectrum instead of the usual either/or way of thinking, let us start with a normal development of an individual. Based on observation of and dialogues with my students, as well as discussing current events with them, it is clear that young persons in colleges or universities generally seek identity. Of course, as I often tell them, this is a normal stage of maturation, and that part of what they experience in their college years is this sense of self that is independent of parents, family, or friends. Yet, in this search, many of them still want to join fraternities, sororities, or clubs, or form clicks. One could argue that this is just to make friends and learn the "ropes" at a particular institution, but for some it is a longing to belong and to find oneself.

At the other end of the spectrum, are young people without nurturing, often "latch key kids" who so long for a sense of belonging and self identity that they join gangs. Other cases at the extreme end of a spectrum, having to do with a lack of identity or selfhood, are those who join cults. Also, in extreme cases, and dependent upon where one lives in the world, there is an identification with terrorist groups which are often tied to religious or political groups.

Having considered identity as an issue which affects the understanding of self and the world, let me at least mention a field of study in philosophy that is germane to understanding, namely hermeneutics, i.e., the study of interpretation.

Hermeneutics:

Hermeneutics, as the study of interpretation, is so important for understanding that I hope to add a course on it to the new Major in Philosophy at our university. However, on one level, we might think that we know what interpretation is. It is *how we understand something to be*. It seems to me that we are well aware that when our beliefs are at odds with others, it is often a case of interpretation of facts or what we have read or heard, or even what we have directly experienced. An example of interpretation would be the response to a speech by our U.S. President, Barack Obama, in which the moderate liberals will tend to agree with much that he says, while the extreme conservatives will find fault with both what he says and his intent.

Yet, on another level, we need to look more deeply into interpretation. Certainly it has to do with meaning, and, of course, the existentialists and phenomenologists have been studying meaning for years. But meaning is not their exclusive purview. Also, one's knowledge and/or study of a subject will directly affect her or his interpretation of what is being considered. In addition, cultural differences, especially in countries other than one's own, can directly affect an interpretation of what is experienced, talked about, written or conveyed by the media. It is also the case that an identification with a particular line of thought, or belief system will directly affect interpretation.

Two of my dear friends at the university, who are scholars in the true sense of the word, interpret history, world affairs and current events very differently. I think that the basic reason for this is a chosen identification with a social/political position which makes sense of their scholarly research, their life experience, and as Hume might say, their passions. In my own case, I certainly identify with the sources of my research for over twenty years, namely *ahimsa*, i.e., non-harm to and compassion for all life, and Gandhi for whom *ahimsa* was a way of life¹⁹. In fact, I am not only a Gandhi scholar, but a modern day *satyagrahi*, i.e., a nonviolent fighter against oppression.

Before leaving the reasons for understanding, let us explore Martin Heidegger's theory of open-ness or receptivity.

Open-ness or Receptivity:

Not only is what Heidegger calls open-ness necessary for creativity, it is necessary for a full understanding of any given subject. By "full understanding", I mean *comprehension based on the available facts at any given time*. Facts can change, so understanding can change. Yet, if one is closed minded and can function only in her or his little area of knowledge or expertise, then he or she has only partial understanding of a subject. I

¹⁹ My book, *Ahimsa: a Way of Life; a Path to Peace,* is being published by Linus Publishers of New York, this month. The galleys are awaiting my final approval.

have written about Heidegger's open- ness, so I will not do so here²⁰. Yet I must say that I cannot understand persons, even professors, who are not open to new ideas, even those that challenge their most fundamental beliefs.

Apropos of persons who are not open to new ideas and those that are, the great Gandhi scholar, Raghavan Iyer, gave two lectures, at my behest, when I taught at Mount Saint Mary's College, in California. One lecture was on Gandhi, but the other lecture compared people's levels of knowledge, to Plato's levels of reality. Within the lower level of becoming, he mentioned those persons, even professors, who have one belief system or methodology to explain everything. They do not question their beliefs or methods. At the very highest level of Being, he placed those humans who dared to question their every belief. He also said that these are the only persons who have real knowledge. As we know, Descartes attempted to do this, and I admire him greatly for it, especially as he insisted on *justification* for one's beliefs instead of accepting the dictates of religion. Of course, philosophers living now, would never accept some of his assumptions or his logic, e.g., defining God into existence.

Retuning to Heidegger's views about open-ness, had he not been so open and trying to learn as much as possible about how persons gain knowledge, he would never have been able to challenge the minddetermined views which he said had started with Aristotle and culminated in the thought of Immanuel Kant.

Having only touched upon the fascinating subject of open-ness and its role in understanding, let us turn to how understanding needs to be subjected to critical thinking and complex reasoning in order to gain knowledge.

Critical Thinking and Complex Reasoning:

In the writing of the proposal for the new Major in Philosophy, at our university, I focused upon Comparative Philosophy with a basis in *critical thinking*, CT and *complex reasoning*, CR. Let me briefly describe both critical thinking and *complex reasoning*, CTCR.

²⁰ I wrote about this in an article, "The Mystical Experience from a Heideggerian Perspective", published in the *Journal of Religious Studies*, Panjabi University, Patiala, India, Vol. XVTFL, Spring 1990.

Critical Thinking, CT:

Having taught both formal and informal logic and critical thinking, and worked for several years on a committee called "Critical Thinking Across the Curriculum", I have seen many definitions of critical thinking. I like to describe it as a *deliberate mental process which enables a person to think clearly, consistently, coherently, and rigorously*. It involves mental skills of analysis, synthesis, and the ability to *justify* the reasons for a belief or a conclusion of a logical argument and to show that these reasons warrant the belief or conclusion.

I believe that CT evolved from informal logic. "Informal" refers to the fact that the argument is not symbolic. i.e., it is not in symbols; it is in a spoken and written language. Also, whereas formal logic is based on syntax or form, informal logic is based on semantics or meaning of terms. Most of the arguments in CT are inductive. "Inductive," in logic, means that the conclusion to the argument is only probable, not certain. "Certain," in logic means that the conclusion could not have been otherwise. Certain knowledge, whether formal or informal, is due to deduction. Also, because of a narrow sense of validity, i.e., it is impossible to have true (all true) premises and a false conclusion, logicians speak of a certain conclusion as deductively valid. I have always thought that the informal inductive arguments are more interesting because their conclusions are not certain, hence, they range from strong to weak. Strong arguments will have premises that are justified and which support the conclusion.

In CT, there has been a broadening on the content of arguments in an attempt to encompass much of human experience. Also, with our ever increasing knowledge in fields such as science and technology, there is more of an emphasis on the reasons which one gives for a belief or conclusion. Also, justification is key. A belief or a conclusion to an argument, must be warranted. In order for this to be the case, the reasons for an argument must be either: true, factual or reasonable to accept and relevant. Finally, as with informal inductive arguments, the arguments range from strong to weak. This is what students and people in general need to understand. One conclusion of an argument or one belief is not as good as another.

Complex Reasoning, CR:

CR involves being *able to recognize what is often complex information* which bears upon a subject. In addition, it involves the ability

to recognize and "step out of the box" of one's particular mind-set in order to understand the complexity. Each of us has a mind-set based upon her or his most basic beliefs and values. Mind-sets are in large measure, due to multiple influences including: when and where one is born, one's genetic potentials and limitations, culture, nationality, education, family, friends, and even, as Plato noted, one's desires and ambitions. Mind-sets clash unless there is a great effort to understand and appreciate other mind-sets. This does not mean that one necessarily accepts the beliefs and values of others, but one cannot even assess them, unless she or he is willing to "step outside" of her or his own set of beliefs and values to do so.

CR will help persons to undertake complex reasoning when necessary and to be able to assess other beliefs and values in an objective manner.

Critical Thinking and Complex Reasoning, CTCR, will enable persons to make sound judgments and wise decisions. It may also lessen much of the conflict over competing ideas and beliefs.

Based upon what has been said above, I think it is clear that human understanding must be subjected to CTCR in order to gain knowledge.

Summary:

Because of space restraints, I have only briefly touched upon a subject that I intend to write a book about, namely *Knowledge and Understanding*. However, in this paper, I have tried to sketch some philosophical views about knowledge and how, in western philosophy, because of the differences in the means to knowledge and the methods of knowing, the view of what can be known with certainty has changed throughout the years. Certain knowledge, for many philosophers is impossible, and the best that we can hope for is what Hume might call *reliable* knowledge.

After adumbrating the western philosophical views of knowledge, I considered the role of *understanding or comprehension in gaining knowledge*. The result can be taken as the sum or range of what has been perceived, discovered or inferred.

Focusing upon problems or issues with understanding, I undertook to examine the role of myth, identity, hermeneutics, and open-ness or receptivity in the Heideggerian sense. Finally, I defined and described the nature of *critical thinking and complex reasoning*, CTCR and explained that

CTCR must be applied in the process of understanding for one to achieve knowledge.

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