

**"THE QUEST FOR MEMORY"
A CRITICAL EXPOSITION OF THEORIES OF
MEMORY FROM PARMENIDES TO HARTLEY "**

BY

HELEN A. OTOLO

**A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF ARTS IN THE UNIVERSITY OF NAIROBI**

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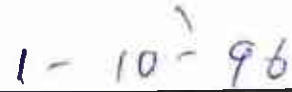
This thesis is dedicated to the memory of my brother, the late Philip Otiato Otolo, who first triggered my interest in Philosophy.

DECLARATION

This thesis is my original work and has not been presented for a degree in any other university.

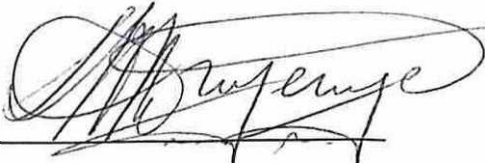


HELEN A. OTOLO




DATE

This thesis has been submitted for examination with approval as a University supervisor.



DR. S. MONYENYE



DATE

ABSTRACT

This study is an investigation into the current status of memory knowledge and how it has been reached.

The study has sought to assess the meaning and significance of theories of memory that have been put forward from Parmenides to Hartley, with a view to gaining a deeper and broader knowledge about the nature and functioning of memory.

Memory has been posited as a metaphysical as well as a physical entity capable of Act and Potency. It has also been posited as a process thus creating confusion as to its nature. Its location is still being studied by scientists who feel that it must be somewhere in the brain.

The inquiry proceeds from the premise that information available on memory is in scattered form such that it is difficult to study the subject without being biased as the information given is lopsided. The information available is in scattered form, because researchers have been concentrating only in particular fields of study such that information about memory rests only with that particular field.

Such sciences as artificial intelligence, neuroscience, linguistics anthropology and psychology do not co-ordinate their results with each other but separately investigate memory. Their unco-ordinated results have shown confusion as to what memory actually is.

Whereas studies in the above fields have reached an advanced stage, a well documented history of the development of memory thought and subsequent analysis is lacking, and where available the information is scanty and very brief thus yielding very little knowledge.

This study has filled the gap between the different results of the sciences and the history of the development of memory thought with a view to gaining a deeper understanding of the subject, and a whole picture view. Such a view would make it easier to philosophize about the subject and that is what this study has done.

The study has gathered together information about the origin of memory thought which is very important not only for this subject but also for a study of any subject.

The study has gone deeper into the roots of what actually influenced the theorists. More significant to the study is the contribution of the african and eastern views to memory thought in order to get a Gestaltic view of memory. This information, the study has collated with the results of the sciences and theorists and has come up with a unified body of knowledge about memory.

The study begins by giving a background of the issues involved and related to memory, in the introduction section.

Since a study of all theories of memory would be beyond the scope and limit of the study, a few selected theories from Parmenides to Hartley have been chosen as they best exemplify the culture of the age. These theories are put forward in chapters one, two and three and philosophical analysis of them is also done. Chapters three and four are devoted to the eastern and african contribution the latter of which is two fold, namely Egypt as the origin of Greek and subsequently memory thought, and traditional african mnemonics. A synthesis of Western, Eastern and African views has been attempted in this chapter which is the core chapter.

Chapter five is the concluding chapter which recapitulates the findings of the study and has offered suggestions especially for further research in the field of african mnemonics.

Hegel's theory of dialectic has been used in this study whereby the ancient period has been put forward as the Thesis, the medieval renaissance and modern periods as the anti-thesis and the african eastern contributions and contemporary views as the synthesis.

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INTRODUCTION

Background to the Study

The various views on memory that have been put forward by scientists, philosophers and philosophers of science tend to suggest a debate on the subject. First of all, it is not clear as to what memory actually is, ie whether it is a physical or metaphysical substance, or whether it is a process or whether it is an entity Capable of Act and potency. This debate has developed into what may now be called a distinction between picture memory and descriptive memory. In connection with this, it is now widely accepted that there is a market difference between the process of remembering and forgetting. Still unknown to the debate is the eastern and african contributions to memory thought. This study is not so much concerned with the debate but with it's outcome ie the results. The study has attempted to synthesize the various views, having looked at them critically.

There is also the concept of mind which is unfortunately also riddled with dispute. The mind/body problem is still a major issue. The study cannot, however afford to ignore it as it is very much related to memory. The concept of mind is greatly relevant to the study because of the ways in which thinkers have explained memory. Some theorists, such as Plato, actually talk of mind and memory as if they were identical and so the study has found it necessary to define mind in all possible ways. Once mind is explained it is easier to understand a thinker's concept of memory. A study of various definitions of mind is also important as it helps to explain eastern and african views of mind and memory which have featured heavily in the thesis.

Thinkers on mind have led to questions being asked about mind which are also asked about memory such as is memory a thing or a phenomenon? Is it a source or product of experience? Does it transcend time and space? Is it a possessive or distributive property. Is it a servant or king of mind.? How does our conception of mind influence our conception of memory? are there multiple selves and as such multiple memories? Does God have a memory?

These questions are difficult but the study has attempted to answer them by appealing to the various contributions to memory thought and has come up with valid conclusions as to what memory entails. The study has thus identified three cultural contexts of mind namely the western, Eastern and African and three levels of mind, namely the Individual, Collective and Divine mind. This will assist in gaining a whole picture view of the various contributions that have been made on the subject of mind and memory. The metaphysical pre-suppositions of mind thus influence the concept of memory.

Statement of the Problem

Theories of memory from Parmenides to Hartley appear to contradict and oppose each other, and this apparent conflict raises confusion as to whether memory is a thing or phenomenon, located in the mind, outside of it or synonymous with it, and also whether the status of these theories may be as a result of influence of the prevailing worldview.

Justification and Significance of the Study

It is imperative that this study be carried out because first of all a unified body of knowledge about memory incorporating the african and eastern views is lacking.

Secondly the literature that is available on memory gives only one side of it and this lopsided view is unfair to the subject. Thirdly, no study, known to the researcher has exposed the misconceptions and prejudices that misguided many an ancient philosopher thus leading to conflict and inconsistencies in theories of memory.

This study is therefore justified because it has attempted to arrive at a unified whole- picture view of memory by gathering information from various sources including the inferred african and eastern views into one document. The study has not just confined itself to enumeration of these theories, but has given a philosophical analysis through comparison thus producing a useful reference for students and lecturers alike.

The significance of the study lies in the fact that it triggers interest in the subject of memory which has been a neglected domain by authors of philosophy, as opposed to mind, which has received massive coverage by authors. Another significance is that the study has put pride of place to Africa and stamped its mark on the philosophic map by helping to propound the view that Africa has and will always have a philosophy to offer. Current knowledge about memory owes its origin to Egypt North Africa. If only the ancient theorists had proceeded with a prior understanding of the Egyptian mysteries, then perhaps the essence and location of memory would be a thing of the past.

Last but not least, the study provokes and challenges african researchers on the continent to identify and document memory systems from their respective, rich cultures with a view to advancing knowledge about memory.

Objectives of the Research

- To identify the first documented ideas on memory and give a critical exposition of them.
- To show the influence of culture on memory theories.
- To incorporate the eastern and african contributions to memory thought with a view to advancing knowledge on the subject.

Theoretical Framework

In order to understand human memory of the present time, it is important to look back at the development of theories of memory as well as their roots in the past. In carrying out this tasks the study will apply Hegel's dialectic theory of, thesis, anti-thesis and synthesis. Dialectic is the oldest of philosophic concepts and was first used by Socrates and later Plato, and then developed by Hegel. Hegel's theory incorporates Heraclitus, Socrates and Plato, thus enabling it to be the most completely developed theory.

According to Hegel, Dialectic is the synthesis of opposites. Every concept as we think about it, begins to show its limitations and passes over into its opposite into the very negation of itself. This thought process brings about true knowledge and involves three stages, namely Thesis, anti-thesis and synthesis. The process of dialectic moves from a first moment or stage (the Thesis) to a second moment or stage (the anti-thesis) which negates, opposes or contradicts the first and finally, this opposition is overcome by a third stage in which a new concept (the synthesis) emerges a higher truth which transcends them.

The study has thus adopted this theory and shown that there are three stages in the development of memory thought, namely the ancient, the more developed and revolutionary stages; And the african and eastern views which form the bulk of the synthesis. There are parallels, which can be drawn between Eastern and Western thought and between Eastern and African thought. Eastern thought is however anti-thetical to the west only in so far as their focus is on alternative levels of mind. Whilst Eastern thought focuses on the collective level of mind, western thought focuses on the individual level of mind, African thought on the other hand is a synthesis of both western and eastern news.

A Gestalt for memory is thus made possible by use of the above framework.

Hypotheses

- It is assumed that theories of memory have to a large extent been influenced by the prevailing cultural worldview which has in turn been influenced by ancient Egyptian philosophy.
- The development of memory theories is firstly revolutionary and then integrationist.
- The theorists' view of mind greatly influenced their view of memory.

Methodology

It is generally the trend in philosophy to carry out any study by the method of philosophical reflection. This method consists of "the examination of meanings, the analysis and clarification of concepts, the search for necessary truths, the use of deductive inference and the attempt to arrive at and evaluate the fundamental principles of human thought and endeavour" (Encyclopedia Britannica International Edition Vol. 24, Encyclopedia B. Inc. 1988 pp 116-117).

However philosophical reflection cannot be carried out in a vacuum. It will need relevant data, such as literature on mind, memory and African and Eastern philosophy. Such literature will include periodicals, journals encyclopedias etc. available at the University of Nairobi Library. Owing to the breadth of the subject literature used has been acquired from bookshops as well as other prestigious libraries as a supplement to the main campus library.

The study is thus a library research and has made use of relevant data from the above sources.

Literature Review

This Literature Review covers selected relevant data which mainly includes the various definitions of memory and mind, the origin and background of memory theories, African and Eastern contributions to memory thought and literature on philosophical analysis.

Defining Memory

There are many books which attempt to give a definition of memory but they cannot all be listed here. The researcher is of the view that the most appropriate working definition may be found in A S Reber's The Penguin Dictionary of Psychology (Penguin books 1985, Great Britain pg. 429).

Reber is an authority in psychology as well as philosophical psychology, and he gives three ways of looking at memory. He says memory can refer to either, the mental activity of retaining information about stimuli, events, images, ideas etc after the original stimuli are no longer present; or the hypothesized "storage system" in the mind/brain that holds this information. It can also refer to the information so retained. It should be noted, that Reber, unlike other authors who define memory and/or mind is careful not to say that memory is in the brain or the mind because he is well aware of the problem that mind poses to researchers who are still studying its nature functioning, and Locus. A look at some authors who define mind will show why Reber's definition is the most appropriate.

According to The Encyclopedia Americana Vol 18 (International edition, U.S.A, 1997 pp 613-616). "Memory is a series of activities, not an entity. The term refers to the activity of learning, retaining, recalling, recognizing and re-learning."

The above definition describes the process of memory only and says that memory is not an entity but on studying the various ideas on memory it seems that memory is an entity.

Another source i.e. The New Universal Library defines memory thus; "The term memory is from the latin memoria, the retention in the mind and the automatic or voluntary recall of experiences, events, ideas and images which have once been conscious but are treated as part of the past life of the individual. Physiologically, memory is connected with brain tissue, for destruction of this tissue produces amnesia". (pp 188-9)

The above definition talks of memory being in the mind but connected to the brain, whereas Reber talks of memory as being in the mind/brain, but again he avoids getting entangled in the mind/brain problem by calling memory a hypothesized storage system. His definition is therefore more objective.

Other authors are concerned with only describing how memory works and its importance without really giving a definition. According to Bartlett F.C. in his book Remembering Cambridge 1932), memory should never be treated as a faculty but as a process. Bartlett is of the view that "nobody can set a ring around memory and explain it from within itself. The dissolving power of modern research seems to have split memory into a number of variously related functions. Functions may be many, and yet acting together they issue in a specific process demanding it's own name, and it's own special mode of study. If we wish to understand how this process becomes possible, and what it is in detail and maybe its conditions, we have to study what precedes it". (pp 11, 12, 13).

Other authors who express similar views with Bartlett are Atkinson Rita, et-al in An Introduction to Psychology (9th Edition, Harcourt Brace Javanovich, Florida, 1985, pg.. 13). According to them, memory is a process of encoding, storage and retrieval. They acknowledge the Centrality of Memory and urge others to do so "... without memory we could not even reflect on ourselves, for the very notion of self depends on a sense of continuity that only memory can bring".

A more philosophical approach, is given by Don Locke in his book Memory (Macmillan 1971). Locke is of the opinion that researchers on memory, should not just be content with what memory does or can do, rather with what it is.

The study supports this opinion very strongly, because it is in line with what the researcher's views that though much has been explained about the process and function of memory, the essence has been left out i.e. what memory is. Locke says "... The question is in effect, what it is that we are talking about when we talk about memory, as we all do, without knowing anything of the physical process involved. He goes further to ask, "When we say that we remember something, what are we referring to? When we talk about remembering, what exactly are we talking about?"

Locke's book is detailed in that it distinguishes memory and remembering which some authors do not. He also distinguishes memory and imagination in the representative theory viz contemporary - traditional theories e.t.c. In the last chapter of the book he talks of the indispensability of memory knowledge thus justifying the need to study memory.

Defining Mind

Having looked at the various definitions and approaches to memory, the study will now turn its attention to the concept of mind of which has featured in the definitions on memory. Once again Arthur S Reber (op. cit pp 429-442) offers the most appropriate definition of mind because it is objective and comprehensive. Reber says that the term mind has come down to us as a union between philosophy and psychology, resulting in a conflict as to the use of the term. He, is of the opinion that the term mind means something different for philosophers as well as for the psychologists. The philosophers tend to view mind as a metaphysical explanatory entity separate and apart from mechanistic systems, whilst for psychologists it is a convenient biological metaphor representing the manifestation of the still, not understood neuro-physiological process of the brain. Reber goes on to give eight conceptions of mind. As mentioned earlier, Reber in a bid to avoid getting entangled in the mind/body problem in his definitions of mind and memory takes an objective and sympathetic standpoint by showing an understanding of the various ways of looking at mind and memory.

The researcher has felt it necessary to quote verbatim all conceptions of mind as put forward by Reber as they will assist in a critical analysis of theories of memory. And these are:

1. Mind as the totality of hypothesized mental processes and acts that may serve as explanatory devices for psychological data ... the focus is typically on the effectiveness of the hypothesized model of mind to explain - not only to describe the observation of empirical studies. The most frequent users of this meaning are workers in artificial intelligence, modern cognitive science psychologists and several schools of philosophy e.g. functionalism
2. Mind as the totality of the conscious and unconscious mental experiences of an individual organism (usually, although not always, a human organism)... This use represents an effort to avoid the above mentioned metaphysical problem but it produces a second order difficulty of the same kind, because of the confusion over how to characterize consciousness.
3. Mind as a collection of processes. Probably the next most commonly held view, the argument here is that the several processes generally studied under the rubrics of perception and cognition, collectively constitute mind. Here there is no effort to define, only to enumerate and to seek to understand those processes enumerated.
4. Mind as equivalent to brain. This position which goes back to William James, must in the final analysis be true. It's major liability of course is that we know precious little about brain function. As a result it is more of an article of faith than a true philosophical position.
5. Mind as an emergent property. The argument here is that of emergentism , that when a biological system displays complexity and organisational structure (or reaches a point of sufficient complexity and organisational consciousness) mind emerges.

6. Mind as a list of synonyms, for example, psycho, soul, self, etc. Nothing is gained by this use and the definitional problems are compounded.
7. Mind as intelligence. Really only a colloquial use of the term as in phrases like "She has a good mind".
8. Mind as a characteristic or trait. Also used non-technically as in phrases like "the mind of an artist." or "the north European mind".

Most authors on mind will define mind in at least, one of the ways mentioned above by Reber. According to The new Universal Library Vol 9 (International Learning Systems Corporation l.t.d. 1969). Mind is "in general, the opposite of matter, more particularly the thinking part of man, the cognitive faculty which is mainly concerned with intellectual processes. In this sense it is Contrasted with Soul which is concerned with various forms of feeling, volition, emotion. The word "nous" (mind) as used by the Greek philosopher Anaxagoras in the sense of the organizing principle of the world, involved the idea of consciousness and design. The same idea appears to some extent in the Monads of Leibniz.

According to the modern definition, mind is a collective term denoting the sum total of all mental processes which are themselves only different functions of the nervous system, especially of the brain". (pg 286)

"In regard to the relation between mind and body (matter), there are three principle hypotheses.

1. Dualism regards the mind as a substance existing side by side with and independently of the body. It's supporters argue that the essential characteristics of matter are extension, change and movement in space, and it has never been shown how mental phenomena, the characteristics of which are unity and identity can be produced from movement and change.

2. Materialism regards mental phenomena as mere bodily functions like the digestion of food. The materialist argues that it is difficult to conceive a satisfactory positive notion of an intellectual substance, not merely regarding it as the negative body.
3. Idealism sees in bodies and external phenomena only the manifestations of intellectual beings; mind is the reality and all else is derived from it or its appearance.

In psychology, the term is much criticized by behaviourists and physics. Psychologists regard all "mental" phenomena as being of physiological origin and ultimately explicable in mechanistic terms". (pg 286)

The above definitions of mind can be said to fall within Reber's eight conceptions in that the soul is contrasted with mind, consciousness is mentioned as well as process. In a nutshell mind is a substance either physical or metaphysical depending on which way one looks at it and it is a process capable of act and potency.

It is the contention of the study that whichever way mind i.e. viewed is from the school of dualism, materialism or idealism, this influences generally one's view on memory, such that if one were to view mind as a physical substance process or otherwise then memory would most likely be viewed in the same way. The theorists' views on mind have greatly influenced their explanations of memory. For further details on memory and mind, there is a list of books given at the bibliography section for reference purposes.

The history of memory is recorded by Tony Buzan in his celebrated book Use your Memory (BBC books Inc London 1989). The book, though brief, can be said to be most enlightening.

Buzan does not give a critical exposition as such because his main purpose is to inform readers on how to improve their memory capacities. He says "The Greeks so worshipped memory that they made a goddess out of her - mnemosyne" (pg 41). He goes further to say that it was her name from which was derived the current word mnemonics used to describe memory techniques.

According to Buzan, in Greek and Roman times, senators would learn these techniques in order to impress other politicians and the public with their phenomenal powers of learning. Using these single but sophisticated methods, the Romans were able to remember without fault thousands of items including statistics relating to their empire and become the rulers of their time. He claims that readers can be endowed with superpowered memories if they master the techniques necessary for this such as association and imagination. Buzan outlines the history of memory by the Greeks in the 6th Century BC, the Romans in the 1st century BC, Galen in 2 A.D. Hobbes in 17 AD, Hartley and Zanotti in 18 A.D. Prochaska, Ebbinghaus, Penfield, Bohn, Rosanmeigh and Anokhin in the modern and 20th century period.

It is generally accepted that philosophical speculations in Greece cannot be traced earlier than 6th Century B C and so Buzan is in order when he begins his record with this period. The study, like Buzan has omitted theories of memory by some thinkers on the subject owing to its scope and limit. Intending Researchers can however, refer to The New Universal Library (op cit pp 188-189) for other theorists on memory. Buzan's work is therefore commendable and useful to the study because it serves as a springboard for philosophical analysis as well provides raw material or data in chronological form.

In analysing memory theories, it will be necessary to know, against what background the theories were written as well as the extent of the influence of the prevailing cultural world view, at the time that they were enunciated.

To achieve this the study will need to use literature dealing with general world views prevailing from sixth Century B.C. to 20th Century B.C. and if necessary earlier than 6th Century B.C. This is no mean task considering the fact that numerous histories of philosophy have been written and some omitted such that the study will need to be very selected. Brucker is said to be the father of the history of philosophy followed by Ritter, then Dr Enfield etc.

The study has used Coppleston and others. It is, conventional to demarcate the history of philosophy (in Europe) into four periods namely the ancient, Renaissance medieval and modern periods. In analysing memory theories the study will proceed by dividing the views of theorists into their respective eras. Hence the Greeks and Romans would naturally constitute the ancient period Galen Augustine and Hobbes under the medieval period, Hartley, Zanotti Prochaska and Pierre Flouren's under the Renaissance period and Ebbinghaus and the rest under the modern period.

For the purposes of the study, it is of use to know the Philosophical climate of opinion prior and after the periods that have been selected, in order to trace the possible cultural influence on the respective theories.

As earlier stated, many books are available on the history of philosophy and so a careful selection has been made. It suffices to say at this juncture that as far as giving chronological accounts of the beginning of philosophy the books hardly differ and if so only slightly because they are after all, stating, historical facts based on adequate authentic research. The only differences that may arise may be in the comments of the authors of these histories. The study has thus made use of the facts as well as comments that it deems relevant and useful to the research.

Beginning with F. Coppleston, A History of Philosophy (Vol I Greece and Rome, Search Press London, 1946). Coppleston, apart from giving historical facts on the history of philosophy stresses the importance of the study of the history of Philosophy. He says "... there is continuity and connection, action and reaction, thesis and anti-thesis and no philosophy can really be understood fully unless it is seen in its historical setting and in

the light of its connection with other systems. How can one really understand what Plato was getting at or what induced him to say what he did unless one knows something of the thought of Parmenides, Heraclitus the Pythagoreans. How can one understand why Kant adopted such an apparently extraordinary position in regard to space time and the categories, unless one knows something of British Empiricism and realizes the effect of Hume's Sceptical Conclusion on the mind of Kant?"

One of the hypotheses of this study is that there is Cultural Influence on the theories; but this will need to be proved by the study even though Copleston entertains a similar idea when he says that "there is continuity and connection in the history of philosophy". Copleston gives the thoughts of the Pre-Socratic Philosophers such as Heraclitus Parmenides, Zeno etc, the Socratic Philosophers such as Plato, Aristotle all of whom are relevant in giving a critical exposition of memory theories.

A Biographical History of Philosophy Vol I by G H Lewes (George Routledge and Sons Limited), will also be a useful guide to ancient Philosophy and may be used alongside Copleston's History of Philosophy. Lewes is, however, more detailed in that he gives a biography of the philosophers which is important in analysing memory theories considering the fact that there is a relation between the personalities of the thinkers and their thoughts. Both Lewes and Copleston recognise the importance and influence of Greek Philosophy and especially, Ionia which Copleston Calls "the cradle of western Philosophy.

For a commentary on the Influence of Individual Philosophers such as Heraclitus, Plato etc to Philosophy, and in this case memory thought, Karl Popper's The open Society and its enemies (vol I, Routledge and Kegan Paul London 1973) will be of use to the study. Karl Popper's main purpose is to show the influence of historicism and the importance which thinkers have given to it. This, he believes is futile and of no consequence. He says "... The future depends on ourselves, and we do not depend on any historical necessity." (pg 3)

The study will however be more concerned with what is relevant to memory - theories and, in this case Heraclitus' influence on greek thought. He says "Heraclitus was the Philosopher who discovered the ideal of change. Down to this time the Greek Philosophers, influenced by oriental ideas, had viewed the world as a huge edifice of which the material things were the building material. It was the totality of things - the Cosmos (which originally seems to have been an oriental test or mantle). The questions which the Philosophers asked themselves were what stuff is the world made up or "How is it constructed, what is the true ground plan?" (pg 9).

It is with the above questions in mind, the study contends, that Greek and Roman thinkers on memory put forward their theories. As Popper himself says "... Plato, who in an attempt to interpret the history and social life of Greek tribes and especially of the Athenians, painted a grandiose Philosophical picture of the world. He was strongly influenced in his historicism by various fore runners, especially by Hesiod, but the most important influence came from Heraclitus". (pg 11)

Whilst giving a critical analysis of memory theories Karl Popper's observations in his book would have to be taken into consideration by the study.

Having studied the ancient periods philosophical climate, the study will keep in mind the thought of the medieval ages. Once again, literature available for this purpose is vast and so a careful selection will have to be made from the abundant material. The study, has chosen TZ Lavine's. From Socrates to Sartre the Philosophic Quest. (Bantam books New York, 1989). Lavine like the already cited authors attempts to give a history of Philosophy but selects thinkers whom she feels are most relevant to our times. In other words what comes out of her book is actually the relevance of Philosophy to our world to-day and the future. In chapter six she gives what she terms as the historical transaction into the modern world where she cites Aristotle's philosophy, Saints Augustine and Thomas, the Renaissance as well as the rise of modern science. Lavine in Sum covers the next three periods that are relevant to the study in a most coherent and comprehensive manner. She gives an excellent and objective comparison of Plato and Aristotle as well as a detailed background against which their wrote they works including the political climate at the end of the Peleponesian War (pg. 68).

More relevant to the study especially in the medieval period is Lavine's well researched background. She talks of the fall of the Roman Empire and the Influence of Christianity, which also shaped memory thought at one time. She says "... By this time, christian beliefs and values dominated the Roman Empire, and while some of the heritage of the classical, Greek and Roman civilization was retained and used by the church; many Greek and Roman writings and works of art were destroyed. The church charged them with being Pagan, un-christian and immoral. For over a thousand years, from the fourth century to the fifteenth centuries, christianity shaped the entire social and cultural world of Europe, its political and personal life, social institutions, economic relations, knowledge of the natural world, literature and the arts - all these were under church direction and control. Philosophy, science and art were all placed in the service of religion. This coherent integration of institutional, cultural, and personal life under church direction and control has come to be called the medieval synthesis. (pg. 77, 78).

The free, rational, independent, philosophical speculation of the Greeks was brought to an end by christianity and was not to be restored until the modern era in philosophy emerged in the seventeenth century, with Descartes as its first great representative.

Buzan concurs with Lavine's views by acknowledging church influence on memory thought especially by Galen and St Augustine. Indeed Saint Augustine can be said to have fused christianity with Pagan Greek Philosophy, which the church had almost entirely destroyed. He drew his inspiration from Plato (he is now known as the Platonizer of christianity) thus showing Copleston's statement to be true that "... there is continuity and connection, action and reaction, thesis and anti thesis ..."

Most histories of Philosophy will have a background on the medieval period the Renaissance and the modern. The study however, has selected Lavine's book as giving the best material relevant for the study. Lavine gives a commendable background as well as comments on the Renaissance period (pg. 81-89). She is of the opinion that where St Augustine Platonized christianity, St Thomas Aristotelized christianity "... St Thomas makes maximum use of Aristotle while avoiding conflict with church dogma by sharply distinguishing between philosophy and theology" (pg. 80).

Plato's and Aristotle's, theories of memory will be studied against the above background.

The Renaissance period can be said to have had an effect on memory theories. According to Lavine, this period was "a period of rebirth of classical learning and the emergence of a new mode of consciousness which extended into the sixteenth century. With the recovery of classical languages, literature, art, history and philosophic and scientific texts, there came a revival of the spirit of Greek humanism in opposition to the prevailing christian, religiosity of the middle ages. Humanism may be defined as a cultural and intellectual viewpoint which affirms the dignity and worth of human beings in respect of the power of human reason to know the truths of nature and the capacity of the human spirit to determine express and achieve what is good for human beings. Classical Greek humanism, which had been man-centered and nature-centered, now inspired many of the artists and intellectuals of the Renaissance to glorify man and celebrate the works of human genius and to repudiate strenuously the prevailing christian themes of the worthlessness of man and the insignificance of nature in relation to the supernatural world. (pg. 81-82). The effect of the tenets of the Renaissance period on memory theories will be studied with the above in mind. On looking at the development of memory theories one notices a shift in thought but also a coherence. The study hopes to explain this shift whilst giving a critical exposition of memory theories "... Artists discovered the human body again and began to study the physiology, the muscles and bones of the human body in motion".(Ib pg 82)

According to Lavine from a philosophical standpoint, the most significant development in the Renaissance and the discoveries is a revolutionary view of the truth. In opposition to the scholastic view that human truth is subordinate to a divine supernatural, and transcendent reality which is forever inaccessible to human reason, the shift is to the new view that human reason has the power to know the truth of reality is neither divine nor transcendent. Especially did this new view influence astronomy, which was reborn in the fifteenth century," (pg. 83).

Lavine goes on to show the attraction to science the latter of which dominates current views on memory. "... the scientific spirit moved on. New technology, new inventions, new observations and new theory were appearing all over Europe ... The new age of the Seventeenth century, in which all beliefs were in transition and in which the new scientific discoveries were advancing so rapidly, was one for which the medieval Philosophy of Scholasticism no longer appeared to be adequate and a new Philosophy appeared to be required. Rene Descartes is the first Philosopher of the modern age and offers the first metaphysical theory in response to the new scientific, view of the universe and in relationship to the counter claims of the church".

The study has shown influence of culture on memory theories against the above background. For further background information the study used The History of Philosophy Eastern and Western Vol I by Sarvepalli Radhakrishnan (George Allen and Unwin l.t.d. London 1957).

According to Radhakrishnan philosophy in the west is generally said to begin with the Greeks. He says that the "Greeks were pre-eminently fitted, on account of certain national characteristics to produce an independent and lasting system of philosophy. It was their impartiality combined with a strong sense of reality and an equally strong power of abstraction that enabled them to set up a world of ideas, built up by the strength of independent human thought, the Logos which could claim to explain reality in a natural way in place of the mythological creation of artistic imagination. the Greeks not merely formulated all fundamental questions and problems of philosophy by themselves no mean achievement, but also answered them with transparent clearness, which is peculiar to the Hellenistic mind." He further states that the" Greeks fashioned for philosophic thought the basic ideas in which the whole of later European Philosophy, Science and Theology moved and with which they still work". He continues by saying that" the absence of religious dogmatism in their philosophy produces both an impartial scientific explanation of the world as well as a morality which is unfettered by authority or revelation.

"Greek Philosophy", he maintains", like Greek Art & Poetry grew out of the mind of the people and formed the organic component of Hellenic culture". He says "it has perfect artistic form in presentation and stands before as is eternal unfolding freshness like the poems of Homer or the master pieces of periclean art".

Radhakrishnan as can be seen from the above greatly credits the Greek with introducing Philosophy to the west. Although this is later shown to be incorrect by other authors quoted in the study. He fails to show how national characteristics favoured growth of Greek philosophy.

Coppleston (op. cit pg. 13-14), credits the Greeks with the beginnings of Philosophy, though he is more objective in his praise of the Greeks. Coppleston says "... early Greek Philosophy though naturally the work of individuals was also the product of the City and reflected to a certain extent, the reign of law and the conception of law which the pre-socratics systematically extended to the whole universe in their cosmologies. Thus, in a sense there is a certain continuity between the Homeric conception of an ultimate law or destiny or will governing gods and men the Hesiodic picture of the world and the poet's moral demands and the Ionian Cosmology. When social life was settled men could turn to rational reflection, and in the period of Philosophy's childhood, it was nature as a whole which first occupied their attention.

Coppleston insists that Greek thought was original and not influenced by any other peoples. He states that although Ionia was a meeting place of West and East, it has not been shown that the Egyptians had a philosophy to communicate.

Coppleston is however is incorrect in saying this because it has been shown by several authors such as Diop, Orléans and James that the Egyptians did in fact have a philosophy to communicate by way of the Egyptian Mystery System. Coppleston concurs with the view that "Greek Philosophy was closely bound up with mathematics and it has been maintained that the Greeks derived their mathematics from Egypt and astronomy from Babylon. Now, that Greek mathematics was influenced by Egypt and Greek astronomy by Babylon is more than probable for one thing, Greek science and

Philosophy began to develop in that very region where interchange with East was most to be expected "... But that is not the same as saying that Greek scientific mathematics derived from Egypt or their astronomy from Babylon. Scientific geometry was not developed by them but by the Greeks".

Although it is generally agreed amongst philosophers that the Greeks were in fact authors of the many doctrines concerning the universe, this study chooses, not to ignore the contributions made by authors such as George G James as to the legacy of early Greek thought the former of which is relevant theories of memory.

African and Eastern Contributions

African and Eastern contributions to memory and mind thought have not received adequate attention by researchers as well as authors on the subject. This may be due to the fact that in the case of African Philosophy it is only recently that African ideas on the subjects are being identified and documented. In the case of Eastern Philosophy, Western writers have misinterpreted the belief systems of the orient, because of a lack of understanding of the cultures of these peoples.

The African contribution, in this study is twofold. Firstly there is the contribution of ancient Egypt in North Africa which it is assumed by the study, greatly influenced ancient atomists and alchemists who in turn influenced ancient thinkers on memory.

Secondly the traditional African cultures had developed memory techniques and some of which were drawn from their view of mind.

In this study the traditional African view shall be drawn from J.S. Mbiti's celebrated work African Religions and Philosophy (Heinemann Kenya 1979). Other authors on African philosophy are C Anta Diop, K Wiredu, P Tempels, P Hountondji among others. Details of their books are found in the bibliography section.

According to Mbiti African Religions and Philosophy are hardly differentiated. He says "In this study I have emphasized the unity of African religions and Philosophy in order to give an overall picture of the situation. This approach does not give room for the treatment in depth of individual religious and philosophical systems of different African peoples." (Ib pg xii).

Mbiti
① Religion
Philosophy

Mbiti has studied the attitudes of mind and belief which have evolved in the many societies of Africa. He shows where beliefs are common to various part of Africa and so talks of an African Philosophy. According to him, the concept of Time is basic to our understanding of African religious and philosophical issues. His findings are given as a representative of all the African people except the Sonjo people of Tanzania whom he found to have a term for indefinite future. His book deals with many issues such as death, magic, pregnancy, birth e.t.c. However, more relevant to the study, the concepts of time soul spirit and God. He say that with the spiritual world of Africans is very densely populated spirits and the living dead, and emphasizes that the spiritual world is a unit with the physical and that these two intermingle and dovetail into each other so much, such that it is not easy to draw the distinction and separate them. He characterises these beings into divinities, spirits, living dead, living and God.

Mbiti
② Attitude
Mind

③ Concept of
Time &
Space

From this characterisation can be drawn an African view of mind and this is a shared and collective consciousness which is dynamic and also unique to every individual. Memory is also shared and distributed through the living dead. Mbiti's work has been criticized by some philosophers as a study in ethno-philosophy rather than philosophy proper, owing to the uncritical aspect of philosophy, lacking, in his work. This criticism is perhaps unfair, because so long as there are no philosophic sages to provide data for analysis then Mbiti's work will remain one of the best works that exemplify a peoples belief systems.

④ Shared
& collective
consciousness

Alexis Kagame's work (La Pilosophie Bantu Rwandaise de l'être 1956) has also been used by the study as a back upto Mbiti's work. Kagame has studied the belief systems of the Bantu people of Rwanda and come up with what he calls a philosophy to be. From his book, can be drawn an African view of mind.

The Egyptian African contribution has been drawn from George G. James' book Stolen Legacy (John Richardson publishers, San Francisco, 1988). James opines that "In the drama of Greek philosophy, there are three actors, who have played parts, namely, Alexander the Great, who by an act of aggression invaded Egypt in 333 BC and ransacked and looted the royal library at Alexandria and together with his companions, carried off a booty of scientific, philosophic and religious books. Egypt was then stolen and annexed as or part of Alexander's empire, the school of Aristotle whose students moved from Athens to Egypt converted the royal library, first into a research centre and secondly into a university and thirdly completed the vast body of scientific knowledge which they had gained from research together with the oral instructions which Greek students had received from the Egyptian priests into what they called the history of Greek Philosophy".

James' book gives a detailed account of Egyptian philosophy and shows evidence as to how the ancient Greek philosophers, including the Ionians and Italians might have come across Egyptian works. So far few thinkers have challenged James successfully and others ask why Egypt is silent on contemporary philosophy. Despite the criticism however James' book is an indispensable text to the study as it shows the origin of Greek and subsequently memory thought. Other authors such as Henry Olela and C A Diop among others share his views and details of their work are in the Bibliography section.

In this study the Eastern contribution has been represented by Chinese philosophy and Indian philosophy.

According to Wright in Studies in Chinese Thought (the university of Chicago Press, Chicago and London, 1967, Page 20), Needham observes that, the Chinese worldview depended upon a totally different line of thought. The harmonious co-operation of all beings arose, not from the orders of a superior authority external to themselves, but from the fact that they were all parts of a hierarchy of wholes, forming a cosmic pattern, and what they observed were the internal dictates of their own natures."

And according to Agren Hans in the Oxford companion to the mind, Oxford university press New york, 1988 pg. 146), for the Chinese everything was organic. "This organic outlook appears to be ingrained in the minds of the Chinese and other East Asians and explains why their attitudes towards philosophical explanations differ from those of Westerners. The Chinese never developed any psychology of the conscious".

The above authors being Western writers seem not to have understood Chinese philosophy well and have tried to explain Chinese philosophy through western "looking glasses". A more objective outlook is presented by W.N. Weech in History of the world (Oldham Press Ltd. Longacre London, 1959 pg 340).

He says "the title "Book of changes" itself illustrates Chinese thinking, seeing the swing of the seasons of light and dark, of growth and decay the Chinese felt that the art of living must be that of conforming to this movement, being in step with this rhythm ... Chinese have sought to conform rather than to master." This attitude has led them to accept change as always present and to feel that to try and abstract it would be a mistake... the Chinese like other races interpreted their sense of the unseen as the animation of everything by spirits dwelling in the earth which mothered them and all things, and in the mountains and rivers and woods, and even the doorways of their houses - and they sought to maintain a relationship with these by sacrifice... over all other spirits and forces was the "sovereign on high" (or supreme ancestor), and the sovereign on earth must mediate between him and the people".

From Weech's account of a superior authority one can rightly say that Needham's view is misguided when he says that the Chinese had no reverence for a superior authority. Chinese account of the self and spirits bears striking resemblance to the Indian Self i.e. Atman and African Spirits respectively. As such the researcher has compared the three in chapter four and also come up with Chinese view of mind which may be called a psychology of consciousness as opposed to Hans' views.

For Indian philosophy C.S. Sharma's A Critical Survey of Indian Philosophy, Motilal Banarsidass, Delhi 1987.) has been used. Although numerous books on Indian philosophy are available, Sharma's book is more critical and thus offers a basis for philosophical analysis. His book covers the major Indian philosophical systems and would serve as a good reference for comparative studies.

A more detailed list of books relevant to the study is found in the Bibliography section for further reference.

CHAPTER ONE

THEORIES OF MEMORY IN THE ANCIENT PERIOD AND THEIR PHILOSOPHIC IMPLICATIONS

Parmenides: 6th Century B.C.

Parmenides thought of memory as being a mixture of light and dark or heat and cold. He believed that as long as any given mixture remained unstirred, the memory would be perfect. As soon as the mixture was altered, forgetting occurred.

Diogenes of Appollonia 5th Century B.C.

Diogenes suggested that memory was a process that consisted of events producing an equal distribution of air in the body. Like Parmenides, he thought that when this equilibrium was disturbed, forgetting would occur.

Parmenides and Diogenes, in their explanations of memory can be said to have been echoing the sentiments of their predecessors. The formers' views on memory can be said to have been drawn from his doctrine of the cosmology of the apparent. He belonged to the Eleatic School, which dealt with the problem of change - and also introduced the notion of being and becoming.

Parmenides asserted that, all things are composed of light or warmth, and of darkness or cold. By this, he simply repeats the Pythagorean doctrine of opposites.

Parmenides then takes these doctrines and applies them to memory calling the latter a mixture which he does not expound on whether it's physical or non physical nature.

He says that forgetting occurs when the mixture was altered. This again is hardly convincing and also says precious little about the nature of memory. Although his theory is an attempt to give the nature and process of memory it still does not adequately explain the seat of memory, nor its nature.

Diogenes on the other hand echoes Anaximenes who is credited with teaching that all things originated from air. It seems for Diogenes that if all things originated from air, then memory was no exception.

To him memory is a process which he fails to explain where in the body, it takes place. He is more convincing than Parmenides who implies that memory is actually a substance. The latter would be difficult to prove since his explanations eludes physical observation. The process theory is more convincing because some processes need not necessarily be observed, though they do take place.

The question that arises is whether these theories actually succeed in giving an insight to what memory is. The answer to this must be in the negative because the theories are based on using other people's views to come up with a theory rather than actual deep reflection on the subject. These theories can be said to be inadequate because they rely heavily on the past thinkers, without critical reflection

The Ionian Philosophers and their influence on Parmenides and Diogenes

Thales 620-546 BC

Thales is credited by Aristotle with teaching that:

- (a) Water is the source of all things.
- (b) All things are full of gods.
- (c) The earth is a flat disc floating on water.

"He declared water to be the original stuff, basing his conclusion perhaps on the fact that nourishment, heat, seed, which are essential to life contain moisture. In selecting water as his primary substance, Thales may have been influenced by the myth of oceanos and Tephthys ... water has the capacity of assuming solid, liquid and vaporous forms and thus seems to be in the process of transformation before ones eyes; water evaporates in the heat of the sun and this is readily interpreted in Thales' view as the transformation of water into fire; water comes down again in the form of rain and is absorbed into the ground - this could be regarded as the transformation of water into earth and finally water is necessary to life. "(A History of Philosophy, by F. Thilly, revised by Ledger Wood, Central Book Dept. Allahabad India 1978, pp. 23-24).

Parmenides, must have been influenced by Thales when he talks of memory as being a mixture of light and dark or heat and cold. This mixture must be liquid in nature and is none other than water in its different forms i.e. solid cold - vapour forms - dark, fire-heat (water evaporating in the heat of the sun) and moisture which is contained in Air.

Parmenides' theory is thus, basically a cosmological theory applied to explain a human condition, and its weakness lies in its being directly drawn from previous cosmological doctrines.

Anaximander 610 BC

Anaximander can also be said to have influenced Parmenides in his cosmological doctrine.

He is credited, with teaching that "the essence or principle of all things is not water, as Thales supposes - for water itself must be explained, but the Boundless or Infinite, conceived as an eternal, imperishable substance out of which all things are made and to which all things return. By this he most likely meant a boundless space filling animate mass, the nature of which he did not define specifically, because he regarded all qualities as derived from it from this great mass of undifferentiated matter different

substances are separated in the consequence of it's motion, first the hot then the cold, the hot surrounding the cold as a sphere or flame. The heat of the flame turns the cold into moisture and then into air, sphere of five into "wheel shaped rings". (Thilly, op. cit pp. 24-25).

Parmenides must have assumed the importance of heat, cold and light to memory and so used this to explain its nature. Because of the notion of moisture he called memory a mixture implying a liquid which once again points to Thales' water theory. He seems to synthesize Thales' and Anaximander's views.

Anaximenes

Diogenes can be said to have been directly, influenced by Anaximenes.

Anaximenes is credited with teaching that all things originated from air. "water was not to him the most significant element. He felt within him as something which mocked him, he knew not how, he knew not why; something higher than himself invisible but ever present. This he called his soul. He believed to be air, was then within him an ever moving ever, present, invisible air? The air, which was within him and which he called soul, was it not a part of the air which was without him? And if so, was not this air the beginning of things?... The air seemed universal. The earth was a broad leaf resting upon it. All things are produced from it; all things are resolved into it. When he breathed he drew in a part of the universal life. All things were nourished by air as he was nourished by it ... Compared with the doctrine of Thales, this of Anaximenes presents a decided progress. As a physiological principle founded on analogies of the soul.. rather than, as with Thales, on the analogies of the seed". (A Biographical History of Philosophy G.H. Lewes. George Routledge and Sons Ltd. London & New York 1931 pg. 31).

Anaximenes' supposedly, powerful theory about air being the basic stuff of all things must have influenced Diogenes greatly. If air was the source of all things then memory was to be explained in terms of it. It is no wonder then that he talks of memory as being a process of air in the body.

Convincing though to the study, is his view that memory is a process, but, that, it is just a process of air, is an inadequate explanation and perhaps later theories will shed more light on the subject.

Diogenes talks of memory as being " a process that consisted of events producing an equal distribution of air in the body".

This air, is most definitely the world soul having distributed itself in the body to somehow cause memory to occur.

For Diogenes therefore, memory is a process that takes place metaphysically and since at the time reflection based on ideas of the culture of the age prevailed, he appealed to them to explain memory.

Buzan (op. cit. p. 33) talks of these two theories on memory as being primitive. He could be no further from the truth, because these ideas were indeed primitive and more so because they relied heavily on the culture of the age without real personal reflection on memory. They were "naive" because these so called "greatest thinkers of the world has ever known" relied on the philosophies of previous thinkers and were simply reluctant to think originally.

Still on the Greeks, Buzan credits Plato with introducing a "really major idea in the field of memory, in the fourth century B.C." A look at his theory will show the still metaphysical approach to memory.

Plato's wax Tablet Hypothesis

According to Plato, the mind accepted impressions in the same way that wax becomes marked when a pointed object is applied to its surface. Plato assumed that once the impression had been made it remained until it wore away with time, leaving a smooth surface, once again. This smooth surface was what Plato considered to be equivalent to complete forgetting - the opposite aspect of the same process.

Plato wrote thirty six dialogues and a number of letters, from these, his doctrines can be drawn although in a scattered form over this wide area of literature and found to be in piecemeal.

According to James, (op cit pg 101) modern scholarship has doubted and disputed his writings. Some authors maintain that very few of his dialogues are genuine such that the rest of them must have been written by his pupils.

It is important for the study to be acquainted with his doctrines in order to understand Plato's wax tablet hypothesis on memory. These doctrines include.

1. The theory of ideas and it's application to natural phenomena which includes the doctrines of (a) the real and unreal, (b) the Nous (mind) and (c) creation.
2. The ethical doctrines concerning (a) the highest goal (b) definition of virtues and (c) the cardinal virtues.
3. The doctrine of the ideal state whose attributes are compared with the attributes of the soul and justice.

According to Plato's theory of ideas things which we see around us i.e. those which belong to the earthly realm are only copies of their prototypes, the ideas and noumena, which dwell in the heavenly realm. Ideas are as such real and perfect whereas their copies are unreal and imperfect.

Going by Plato's theory of ideas, the concept of mind must be real and that of memory as well, only that mind it appears, controls memory. Plato thought that mind actually writes on memory to which he refers to as a wax tablet. This wax tablet to him is real and not an analogy used to explain memory. It is thus a metaphysical rather than a physical wax tablet and it's location must be outside of the body.

Although Plato fails to show the seat of memory he however discusses the activity of remembering and forgetting taking place, but the idea of mind "writing" impressions is difficult to grasp.

He attempts, however to introduce the aspect of forgetting to the subject but without showing how this takes place and where. This makes the concept of memory more mystifying and hopefully later theorists will be able to demystify it.

Plato's doctrine of the Nous or world soul may be used to explain how memory and mind interact. This doctrine teaches that in the universe are living animals and that they are endowed with the most perfect and intelligent souls, that if God had made the world as perfect as the nature of matter allowed, then he must have endowed it with a perfect soul. This soul acts as a mediator between ideas and natural phenomena, and is the knowledge of life, motion, order and knowledge in the universe.

To Plato, then, the mind or nous is responsible for memory and directs the representation from the body to the mind. It appears from this that mind and memory are identical but this is difficult to conceive because one directs the other, therefore memory must be an aspect of mind.

Plato, was influenced by his predecessors whilst putting forward his theory of memory. According to Thilly (A History of Philosophy, Revised by Ledger Wood Central Book Dept Allahabad India, pp. 81, 1978). "Plato's theory of ideas is his most original philosophical achievements. Although the way was prepared for the ideal theory by the Pythagorean number-mysticism, the eternal being of Parmenides, the Heraclitun logos doctrine, the quantitative atomism of Anaxagoras and most of all by Socratic doctrine of concepts, the theory of universals as a fully articulated metaphysical position must be credited entirely to Plato".

This originality is however doubted by scholars such as James and others. James opines that the doctrine of Nous, previously attributed to Anaxagoras did not by any means originate from Plato, on the contrary, it originated from the Egyptian mystery

system in connection with which the God Osiris was represented in all Egyptian temples by the symbol of an open eye referred elsewhere in the study. This symbol indicated not only sight that transcends time and space: but also omniscience, as the great mind which created and which still directs the universe.

Plato, cannot therefore be said to have introduced a "major idea" in memory thought but was simply echoing the views of his predecessors only in a differentiated form. Without being unfair to Plato, however it can be said that his theory on memory was original.

For memory thought therefore, this can be said to have been a development in it's initial stages.

Zeno's Theory

Shortly after Plato, Zeno, the stoic slightly modified Plato's ideas suggesting that sensations actually "wrote" impressions on the wax tablet. Like those before him, when Zeno referred to the mind and its memory he did not place it in any particular organ or section of the body. To him, as to all the Greeks, "mind" was a very unclear concept. (Buzan op cit. p. 34).

Perhaps this lack of clarity in so far as the concept of mind was concerned was because of the secrets that the Egyptian mystery system held and which could only be imparted to a few members. Unless one was a full time pupil of the Egyptian Academy then bits and pieces of information put together hurriedly would only lead to confusion and mysticism. Thinkers, however continued to attempt to explain memory. Next in the development of memory thought is Aristotle in the late fourth century B.C.

Aristotle's Theory

Aristotle is said to have introduced more scientific terminology to memory thought. "He maintained that the language previously used was not adequate to explain the physical aspects of memory. In applying his new language, Aristotle attributed to the

heart most of the functions that we now attribute to the brain. Part of the heart's function he realized was concerned with the blood, and he felt that memory was based on the blood's movements. He thought that forgetting was as a result of gradual slowing down of these movements. Aristotle made another important contribution to the subject of memory when he introduced his laws of association of ideas. The concept of association of ideas and images is now known to be of major importance to memory". (Buzan, op. cit. p. 34).

James is of the view that Aristotle has erroneously been credited with writing over one thousand books on Mathematics, Physics, Theology, Ethics, Economics, Politics, Poetry, Art and Rhetoric. Neither logic nor metaphysics was in this list previously written by him. A fact which is impossible for one to perform in a lifetime.

He maintains that Aristotle's review of the doctrines of all previous philosophers, including Plato, together with his exposure of their errors, and inconsistencies, shows that he had become confident, not only of the fact that he was in possession of a new and correct knowledge, one that had not before been made available to the Greeks, but also that he could then speak with great authority. James further states that he must have acquired this "new" knowledge from sources outside Greece because Plato who was supposed to teach him was not competent to do so. James says "we are told in the history of Greek philosophy, that Socrates taught Plato and that Plato taught Aristotle. But there is no evidence that Socrates ever taught Mathematics or Economics or Politics. Consequently, it was impossible for him to teach Plato these subjects, and also impossible for Plato to teach Aristotle. (James op cit p. 127).

From the above information about Aristotle one can deduce that Aristotle was able to introduce new scientific knowledge to memory thought because he was in possession of more literature which other scholars of philosophy in Greece at that time, did not have.

Aristotle's doctrine of the soul can be said to be the origin of his memory theory. However according to James, the doctrine of the soul did not originate from Aristotle, nor from his teacher Plato, nor even from the Pythagoreans and Atomists, but from some other source outside of Greece. James puts forward two such sources, namely (1) The Egyptian book of the Dead, which does not only contain attributes of the soul, identical with those mentioned by Aristotle, but a far more elaborate system of philosophy in which human nature is explained as a unity of nine inseparable parts consisting of different bodies and souls interdependent on one upon another, the physical being one of them.

According to J L Christian (Philosophy the art of wondering, Rinehart Press, California, 1973). Aristotle was the first great Synoptic Philosopher". His mind ranged over every realm of human knowledge, and he produced brilliant writing in every field. Drawing upon the immense amount of empirical data collected by his students and sent to him by Alexander from foreign countries (one report has it that Alexander set a thousand men collecting specimens of flora and fauna for Aristotle's laboratories and museums"). (pg 32).

From Christians account of Alexanders travels, it is possible that Aristotle used data from Egypt, through Alexander, as James maintains.

In the Genesis story it is asserted that God made man out of matter (i.e. the dust of the earth), and breathed into his nostrils, the breath of life, and "man became a living soul". Here we have a clear statement of the identity between "body" and "soul", taken from a document (Genesis) which antedates Aristotle by many centuries.

James maintains further that the fragmentary character of Aristotle's writings and their lack of unity, reveal the fact that he himself made notes hurriedly from books while doing his research at the great Egyptian library. The ancient teaching method was oral; not by lecture and note taking.

According to Buzan, Aristotle attributed to the heart functions that we now attribute to the brain and that he felt that memory was based on the blood's movement. But, as already alluded to by the study, Aristotle must have drawn his theory from his doctrine of the soul, which once again goes back to Egypt access of information to which, he must have had.

In the Egyptian book of the dead are found nine inseparable parts which compose the human soul. Some of them are: (1) The Ba, i.e. the heart soul, which dwells in the ka (i.e. the abstract personality of the man to whom it belongs possessing the form and attributes of man with power of locomotion, omnipresence and ability to receive nourishment like a man) and sometimes alongside it, in order to supply it with air and food. It has the power of metamorphosis and changes its form at will. (2) The Ab, i.e. the heart, the animal life in man, and is rational spiritual, and ethical. It is associated with the Ba (heart soul) and in the Egyptian judgement drama it undergoes examination in the presence of Osiris, the great judge of the unseen world. (James op cit. pp. 123-124).

Aristotle summarizes the doctrine of the soul by attributing to it the following attributes: The,

- (a) sensitive
- (b) rational
- (c) nutritive
- (d) appetitive
- (e) locomotive

So vital was the soul to him that he had to use it to explain memory. And since the soul was the power behind every human being it must be in the blood which he felt was a more down to earth explanation and capable of observation, hence the so called scientific explanation.

His theory was therefore not so much a major contribution to memory thought, but his law of association of ideas and images may be original as it has become of major importance to scholars of memory.

It appears then, that Aristotle preferred to explain memory and forgetting as processes rather than physical substance in opposition to Plato who thought that it was a metaphysical or even real substance, but it is still unclear how this process triggers memory activity; how the memory is stored and where in the body is left unexplained.

According to Buzan, the Greeks were the first to seek a physical explanation for memory, they developed scientific concepts and a language structure that helped the development of these concepts, and they contributed the wax tablet hypothesis which suggested that memory and forgetting were opposite aspects of the same process.

However the study has so far revealed that the Greeks in seeking a physical explanation for memory were entangled in the metaphysical pre-suppositions of their predecessors whose theories were in turn influenced by the Egyptian mystery system which was more of a spiritual "magical" nature rather than physical.

Their theories were based on philosophizing on memory by using other philosophies to explain it rather than empirical studies, and this grossly affected the outcome of their theories.

Theories of Memory by the Romans

Still in the ancient period, theories of memory by the Romans are minimal. The major thinkers of their time are Cicero in the 1st century B.C. and Quintilian in the 1st century A.D.

They accepted without question the wax tablet hypothesis which has already been studied, and so did little further work on the subject. Their major contributions were in the development of memory systems. They were the first to introduce the idea of a link system and a room system. Since the study is not so much concerned with memory systems but memory theories, the next major contributors shall be studied. However detailed information on the systems are available in Buzan's book Use Your Memory (op cit. pp. 47-64).

The philosophical implications of these theories indicate that memory is a process, at the same time it is a physical substance. The type of substance or physical entity is however left unexplained. Perhaps later theories to, which the study shall now turn shed more light on the subject.

CHAPTER TWO

A CRITICAL ANALYSIS OF THEORIES OF MEMORY IN THE MEDIEVAL RENAISSANCE AND MODERN PERIODS

Galen's theory of Memory

The next major contributor to memory theory was the great physician Galen in the second century A.D. He located and delineated various anatomical and physiological structures and made further investigations into the function and structure of the nervous system. Like the Greeks, he assumed that memory and mental processes were part of the lower order of animal spirits. He thought that these spirits were manufactured in the sides of the brain and consequently, memory was seated there. Galen thought that air was sucked into the brain and mixed with the vital spirits. This mixture produced animal spirits that were pushed down through the nervous system, enabling humans to experience sensation (Buzan, op.cit. pg. 35).

Galen goes a step further from previous thinkers on memory by actually trying to locate the seat of memory and also show what constituted the process of remembering. His theory is also an attempt to explain the nature and functioning of memory-rather than applying a cosmological theory to explain memory, as previous thinkers did, his study of memory is more empirical and also more convincing to an inquiring mind. However, his use of words such as "Air", "animal spirits" and "mixture", takes one back to the previous thinkers, namely Anaximander and Herophilus. The former thought of memory as being an equal distribution of air in the body. For Galen, Air constitutes part of the mixture which enabled memory to occur. The other part of the mixture were "animal spirits", an idea which Herophilus introduced in the 3rd Century B.C. He thought that the vital, or "higher order" spirits produced the lower order "animal spirits" which included the memory, the brain and the nervous system, all of which were secondary to the heart.

The idea of vital spirits is not well explained by either Herophilus or Galen who takes it up without elaborating further on it. The study can only guess as to what this animal spirits might be. The idea of animal spirits is most probably drawn from the concept of the soul by Aristotle who attributed to the heart, functions which are now attributed to the brain. It has already been established by the study that the concept of soul was closely related with that of a vital principle controlling the universe. For Egyptians, it was manifested in the human body in various forms, having different functions. These various forms might be what Herophilus and Galen call "animal spirits" and memory was part of the lower order of the same.

Although Galen tried to show the seat of memory, this was not to be the case. His views on memory were rapidly accepted and condoned by the church, which at this time was beginning to exert a great influence. His ideas became doctrine and as a result little progress was made in the field for 1500 years. "Between the foundation of stoicism and Epicureanism and the establishment of christianity as the official religion of the Roman empire lies a span of some six hundred years. The early part of this period produced a ferment of ideas in Philosophy and Science. But the first two hundred years of the Roman Empire, inspite of the achievements of the anatomist Galen, and the astronomer Ptolemy, were not a time in which original thought flourished. Much was done to synthesize, modify or reinterpret existing theories but the dominance of Rome, so fruitful in many respects was not conducive to philosophical speculations". Dictionary of the History of Ideas Vol. IV. (edited by Philip. P. Wiener, Charles Scribner's Sons, New York 1973 pg. 8).

Galen's theory can be said to be a modified version of previous theories and though different, it is not so original. He can be said to have succeeded more in explaining the nervous system than memory, which at this stage is still not defined in an understandable way.

Augustine's Theory - 4th Century A.D.

St. Augustine accepted the church's idea that memory was a function of the soul and that the soul was located in the brain. He never expanded on the anatomical aspects of these ideas (Buzan, op.cit. pg. 35).

Although Augustine appears to fully accept Galen's theory he actually locates memory in the brain since the soul was located in the brain as well. Augustine had to come up with a more convincing theory even though he could not actually show where in the brain memory was located or took place.

He must have realised that the primitive ideas on memory were only echoing cosmological doctrines of the past and so any explanation had to be closer to the truth which people would find more readily and easily acceptable. Buzan opines, that, from the time of St. Augustine until the seventeenth century there were almost no significant developments, and even in the seventeenth century new ideas were restricted by doctrine.

Descartes' Theory

Descartes accepted Galen's basic ideas, although he thought that animal spirits were sent from the pineal gland or special courses through the brain until they came to the part where memory could be triggered. The more clear cut these courses the more readily he thought would they open when animal spirits travelled through them. It was in this way that he explained the improvement of memory and the development of what are known as memory traces. A memory trace is a physical change in the nervous system that was not present before learning. The trace enables us to recall.

Hobbe's Theory

Thomas Hobbes considered and discussed the idea of memory but contributed little to what had already been said. he agreed with Aristotle's ideas, rejecting non-physical explanations on memory. He did not however specify the real nature of memory, nor did he make any significant attempts to locate it accurately.

Buzan maintains and the study concurs with him, that, it is evident from the theories of the seventeenth century that the inhibiting influence of the church and Galen had been profound. Practically all these great thinkers accepted without question primitive ideas on memory.

It will be of interest for the study to find out how and why these theorists accepted without question primitive ideas on memory. It has already been suggested that the church was so stifling that memory thought could not thrive. However, the study notes that although this allegation may have some substance, the theorists cannot be said to have been original in themselves even before the advent of the church. The theorists still relied heavily on the metaphysical pre-suppositions of past thinkers despite achievements in Anatomy and Physiology.

Galen's "breakthrough" on the central system enabled others like Augustine, Descartes and Hobbes to seek an empirical basis for memory study. This leads to memory theories concentrating on the substance or nature of memory rather than its being a mysterious process or metaphysical entity endowed with both act and potency. Descartes and Augustine have been dubbed synthesizers by philosophers of history because they tried to please both the church and the scientists both of whom were developing in the society and wanting to exercise their authority, hence the turn that memory thought takes.

According to Dictionary of the History of Ideas (op.cit. pg. 9) Augustine, in interpreting the scriptures was influenced by an intellectual climate common to Pagan and Christian; and inner experience as revealed by introspection. He calls the soul an incorporeal substance that cannot be named but only inferred from the fact that God, its creator is its proper habitation. The soul, he says, shares in reason and is fitted to rule the body. It vitalizes the body, by its presence and forms this into a harmonious unity. It can take note of the body's changes but these do not affect the soul itself. In man, it posses various grades of being, ranking determined by the objects of its attention.

Like Plotinus, Augustine laid great weight on "memory" for this is not mere reminiscence but the store house of experience and the mind's knowledge of itself. In Conversion the mind remembers God.

Augustine's theory of memory has an element of spirituality and takes on an extremely metaphysical structure. His views on memory as has already been implied, must have been coloured by his spiritual doctrines and beliefs.

According to Thilly (op. cit. pg. 159). Medieval philosophy is a feature of the scholastic period in which "the Christian Religion, above all else dominates the intellectual life of western Europe". Thilly defines this period as the Patristic Period of the middle ages, an era which was a prelude to medieval philosophy proper. It extended from the time of Christ to the death of St. Augustine in 430 A.D.

Thilly is of the opinion that the Patristic results form the scene of early Christian religion with Hellenistic Philosophy, though much richer in theology than in philosophy. St. Augustine, he maintains was the greatest representative of this period. Patristic philosophy combined christian elements with those derived from Greco-Roman philosophical tradition - and this holds true for Augustine's theory of memory which is drawn from the Greek concept of the soul and the notion of "animal spirits, provided the materials of the medieval synthesis, achieved during the scholastic period and thereby determined the complexion of western European civilization of the middle ages.

The Scholastic Period

After the establishment of the fundamental doctrines and the triumph of christianity as an organised church, there began a period of philosophical construction devoted to the elaboration of a philosophy in which the subject-matter and guiding principles were determined by dogma.

Within these limits, set by Christian dogma, the mind was left free to exercise its skill so long as it did not conflict with established truths, human reason could interpret the world as it pleased.

Scholasticism, however feared attack. The dogmas and the whole accidental system were criticized and the inner religious life transformed by appealing to the Bible and the individual conscience. The reform of christianity and its theoretical and practical aspects, culminated in the two preludes to the modern era; the Renaissance and the Reformation.

A philosophical examination of the medieval theories thus reveal that the status of memory as far as speculation on the subject goes is that memory is still not defined satisfactorily. At this stage, of the development of memory thought, memory is a process as well as a substance that can be located in the body and also an entity endowed with both act and potency. The substance process and entity are however not made very clear by these theorists, the reason being the influence over them, of the church. In the theorists' attempt to let reason rather than faith reign, they encountered a hostile church environment which insisted on dogma. It is no wonder then that memory theories at this stage take on the form that they do. What results is a synthesis of the old theories and the new, currently at the time in medieval Europe. Perhaps later theories will shed light on the subject and add new spice to memory thought.

THE RENAISSANCE PERIOD

Hartley's Vibrating Theory of Memory

According to Buzan, one of the first thinkers to be influenced by the Renaissance and by the ideas of Newton was David Hartley in the eighteenth century, who developed the vibrating theory of memory. Applying Newton's ideas on vibrating particles, Hartley suggested that there were memory vibrations in the brain that began before birth. New sensations modified existing vibrations, in degree, kind, place and direction. After being influenced by a new sensation, vibrations took a little longer to return. This progression would finally result in the vibrations remaining in their "new" state and a memory trace was thus established.

Hartley's vibration theory was a totally new way of looking at memory. His theory is based on Newton's vibrating particles. Hartley's theory however is an attempt at a physical explanation for memory. He locates memory in the brain and rather than get

entangles in the old age issues of the nature of memory, he avoids this by inventing what he calls memory vibrations. These not only explain the process of memory but also the ingredients that are required for memory to take place.

Although past thinkers attempted to explain these ingredients, which were essential for memory to take place, they were hardly convincing. But Hartley's vibrations are easier to comprehend even though they do not wholly settle the questions of whether memory is a thing or a phenomenon?

Since Hartley was influenced by Newton who was subsequently influenced by the Renaissance, the study will need to browse through these two influences in order to understand Hartley's theory.

According to T.Z. Lavine From Socrates to Satre, (Bantam Books, New York, 1989, pp. 81-82), Newton's principles were the most esteemed of all the scientific achievements of the age of the enlightenment. The latter, she maintains, was a by-product of the Renaissance. "The Age of enlightenment perceived itself as a time in which human reason was shedding its great light upon nature and humanity, banishing the darkness of the middle ages with its scholastic philosophy, religious dogmatism and political absolutism." (Lavine op. cit. pg. 135).

Lavine opines that Newton proved that mathematical physics could explain the whole of the physical universe and not only isolated parts. His law of gravity established a law for the whole of nature. The same law of gravity holds for the planets and their satellites, the earth and its satellites, for the moon's tidal effects on the oceans and for all terrestrial objects.

For Newton, Lavine maintains, the entire physical universe is mechanical, a world machine. Everything about the machine from the motion of the planets to the falling of an apple from a tree, can be explained by the mechanical laws of motion.

The physical universe, is thus a system of causes and their necessary effects completely deterministic in all its operations. Everything that happens in the physical universe is the necessary and inevitable result of antecedent causes, nothing can be other than what it is, everything is what is by causal necessity. No material body can be free from this necessary causal determination.

Newton, says Lavine, soon became the enlightenment's symbol of the man of science, he was the very symbol of the power of scientific reason to discover the rational laws which govern the physical universe. If physical nature is a harmonious order, governed by necessary laws of nature which reason can discover, then human nature as well since the human sphere is also part of nature and therefore also governed by harmonious, orderly laws.

From the above account of Newton's principles it is no wonder that Hartley, was so attracted to this new way of explaining nature and could not resist to apply it to the human sphere, and in this case memory. Hartley echoes Plato when he talks of the innateness of memory vibrations. Later John Locke was to discard Plato's innate ideas in the brain as non-existent. To him, the mind or brain was a tabula-rasa or blank tablet on which experience wrote. But for Hartley the brain was not empty but that it arrived, into the world, with material which was all set, to start up a memory process, culminating in what he terms as "a memory trace".

Newton's principles bear a semblance to Aristotle's Law of Causality where he posits four causes which are necessary for life on the universe to take place. For Newton, as for Aristotle, everything is determined and so for Hartley, memory also must be determined as it is governed by certain laws. Sensations, for Hartley were the main cause of vibrations in the brain. And so the law of causality for him aptly explains memory.

Aristotle posited four causes in the realm of nature; every being or living organism, according to him, is the complex effect of four causes:-

- (1) The substance out of which it is made (i.e., material cause).
- (2) The type or idea according to which the embryo tends to develop (i.e. formal cause).
- (3) The act of generation (i.e. efficient cause).
- (4) The purpose or end for which the organism is created (i.e. final cause).

Thus, matter, type, creation and purpose are the four principles which underlie all existing things.

From the above then it appears that Newton was not so original and neither was Hartley. Perhaps the former's originality lay in his "discovering" the Law of gravity which was the main idea behind Aristotle's four causes".

However, as has already been put forward, Aristotle himself was not original at all. He maintained that nature does nothing in vain, but according to definite law. However, his metaphysics has its origin in Egypt through the Egyptian mystery system (James, op.cit. pp. 114-115).

Hartley's theory as well, seems to have been influenced by Aristotle's four causes. One can draw parallels between his "new sensations which modified existing vibrations in degree, kind, place and direction" and the four causes, namely, the material, formal, efficient and final causes of memory.

The material cause can be said to be memory vibrations taking place in the brain, the formal cause i.e. the kind of vibrations; the efficient cause i.e. the sensations causing the vibrations and the final cause which implies the direction through which the memory vibrations are going, culminating in a memory trace which is in fact the purpose for which memory is created.

For Hartley therefore, memory is a determined concept by a certain law. He inferred from the law of gravity that memory must be governed by a Law. Although memory thought at this stage appears to have developed greatly, the subject matter is still not dealt with sufficiently owing to overreliance on existing world views. Hartley can be said to have been greatly influenced by the Renaissance and its by products.

According to Lavine (op.cit. pg. 83), "From a philosophical standpoint, the most significant development in the Renaissance and the discoveries, is a revolutionary new view of truth... the shift is to the new view that human reason has the power to know the truth of reality and that reality is neither divine nor transcendent".

Hartley, as like Newton, must have thought that he had discovered a new truth in as far as memory thought was concerned.

However, as the study has already shown, although his theory may have been a search for truth, its being a "new truth" is highly doubtful, since some of the basic ideas had already been enunciated by previous thinkers and it was left to these new thinkers to build their theories, on raw material, which had already been laid by the previous thinkers.

The new contributions to memory can however not be totally in vain because, as Buzan says, they laid some of the groundwork for the modern theories of memory - these became more scientific in nature rather than metaphysical as had been the case previously.

With the development of science in Germany in the nineteenth century, some important advances occurred. Many of the ideas initiated by the Greeks were overthrown, and work on memory expanded to include the biological sciences.

George Prochaska a Czech physiologist finally and irrevocably rejected the old idea of animal spirits on the grounds that it had no scientific basis, and that there was no evidence to support it. He also rejected the idea of localizing memory in the

brain since very little was known about the subject at the time - i.e. the nineteenth century.

Perhaps the reason why ideas by the Greeks on memory were overthrown was because of their over-reliance of the metaphysical pre-suppositions of previous thinkers and their application to memory thought. This obviously clouded any serious reflection on memory.

The rejection of animal spirits, by Prochaska was also in order because as he says "it had no scientific basis" especially as it was used to explain memory rather than its normal functions as put forward by the Egyptians.

The Renaissance, can be said to be solely responsible for this new view of memory. The word "Renaissance" (rebirth) is generally applied to a series of cultural changes which began in Italy in the 14th century and spread to the rest of Europe in the late fifteenth century, colouring and perhaps conditioning many fundamental assumptions about art scholarship and morality, until the 18th century (Dictionary of Ideas op.cit. pg. 121).

The Renaissance, it seems was a hierarchial and reactionary mode of thought and behaviour, and thought about memory, was not spared.

Modern Theories of Memory

According to Buzan, developments in memory research have been aided to an enormous degree by advances in technology and methodology in the twentieth century. Almost without exception, physiologists and other thinkers in this field agree that memory is located in the cerebrum which is the large are of the brain, covering the surface of the cortex. Even today, however, the exact localisation of memory areas is proving a difficult task, as is the accurate understanding of the function of memory itself.

Current thought has progressed from Herman Ebbinghaus' work, at the turn of the century, with regard to basic learning and forgetting curves, to advanced and complex theories. Research and theory can be roughly divided into three main areas: Work on establishing a biochemical basis for memory theories suggesting that memory can no longer be considered as a single process but must be broken down into divisions: and the clinical surgeon Wilder Penfield's work on brain stimulation.

Research into the biochemical basis for memory was initiated in the late 1950s. This study suggests that R.N.A. (ribonucleic acid), a complex molecule, serves as a chemical mediator for memory. R.N.A. is produced by the substance DNA (deoxyribonucleic acid) which is responsible for our genetic inheritance. For example DNA determines eye colour. A number of experiments have been performed with RnA that lend support to the idea that RNA does indeed have a lot to do with the way in which we remember things. In one instance, when animals were given certain types of training, the RNA found in specific cells was changed. And further, if the production of RNA in an animal's body was stopped or modified, this animal was unable to learn or remember. An even more exciting experiment showed that when RNA was taken from one rat and injected into another, the second rat "remembered" things that he had never been taught but that the first rat had. While research into this aspect of memory is progressing, other theorists are saying that we should stop emphasizing "memory" and concentrate more on the subject of "forgetting". Their position is that we do not so much remember as gradually forget. Encompassing this idea is the duplex theory of remembering and forgetting, which states that there are two different kinds of information retention: long term and short term (Buzan op.cit. pg. 37).

Modern theories of memory as has been outlined by Buzan tend to be empirical. The emphasis it seems, is no longer on the metaphysical aspect of memory but rather on that part which can be delineated and studied. Memory thus becomes a physical or material substance capable of location. This can be done using machines in the form of computers which can be programmed to "think" and also aid researchers in establishing how human memory operates. The study has so far shown the progress or development of memory theories thus supplying the research with data that may enable us to come

up with a coherent worldview. The latter can however, not be done without incorporating the African and Eastern contributions which the study will need to put forward. Some philosophers are of the opinion that it is not easy or even old fashioned to come up with a coherent world view. As A.J. Ayer puts it "the elaboration of a worldview through philosophical system building has gone almost wholly out of fashion. It requires that the worldview incorporate the deliverances of science and possibly also of the arts" (Philosophy in the twentieth Century). Unwin Paperbacks, London, 1984, pg. 15).

In arriving at a coherent worldview, the study will interpret all theories from a philosophic stand point, which as Ayer maintains, is critical and explanatory, examining the relation of physical theories to their evidence, the differences in their structure, the ways they evolve out of one another, their pretensions to objectivity and their compatibility with the assumptions of common sense.

Philosophical Implications of Memory Theories from Parmenides to Hartley

The study has so far presented a critical exposition of memory theories. Their ontology and originality, have also been tackled. It appears that the influence of culture has been predominant in the development of memory thought. The theories proceed from a cultural world view which is not originally from Greece but from Africa in ancient Egypt. The ancient Egyptians, it appears, once held a worldview which was already coherent because it covered almost all areas of the physical universe. This worldview was then plagiarized by the Greeks to suit their own cultural situations and then called a Greek worldview or western world view. This has greatly influenced the history of memory and its development.

The metaphysical aspect of memory is a main feature in the theories; memory appears to be a metaphysical entity because of the clouded views of mind, by the theorists and their predecessors. The Epistemological aspect also comes out of the such theories questions as to how much can be known about memory and how much the

theories have so far revealed is important for study. It appears from the theories that very little has been known.

The issue of ethics must also be addressed. For a long time the Greeks were credited with having brought civilization to the world and in this case be the first exponents on theories of memory. However, having looked at the latter, it is highly doubtful that they were the original thinkers on memory. Their theories on the whole lack originality and the question that arises is whether it is right to ascribe to them the honour of being the first put forward theories of memory when in fact evidence shows that the basic ideas they have used in their theories were already pre-existent in ancient Egypt?

Memory thought from Parmenides to Hartley, leads the study to contend that without the cultural world views, the theories would not take the turn that they do, and that they have developed from an already pre-existent world view - that of the Egyptians.

Although the theories are evolutionary, the evolution is in individual thought rather than on memory thought itself. They can also be said to be revolutionary in so far as they put forward different explanations for memory. The theories are convergent in so far as they lead to a coherent world view and diverge only when individual thought and vocabulary is introduced to the subject.

CHAPTER THREE

AN ANALYSIS OF EASTERN PHILOSOPHY AND ITS RELEVANCE TO MEMORY THOUGHT

In order to infer memory thought from Chinese culture, it is necessary to know Chinese view of mind. This level of mind is collective or holistic insofar as it does not lay emphasis on individual mind.

According to Fritjof Capra, The Tao of Physics. An Exploration of the Parallels between modern Physics and Eastern Mysticism. (Flamingo, Fontana Paperbacks, London, 1989 pp.113-121), the Chinese view of mind is entangled in occultism and mysticism. Capra traces the origin of Chinese thought to Hinduism, also a part of Eastern mysticism, according to which all things and events are manifestations of the same ultimate reality called Brahman which is "the unifying concept which gives hinduism a monistic character, despite the worship of numerous gods and goddesses. (capra op. cit, pg. 99). Brahman is divine and its manifestation in the human soul is called Atman.

The Chinese also believed that there is ultimate reality which underlies and unifies the multiple things and events we observe and they called this reality Tao, which originally meant the way or process of the universe, the order of nature.

Tao is the ultimate undefinable reality and as such is the equivalent of the Hinduist Brahman and Buddhist Shamatraya. Tao is the Cosmic process in which all things are involved, the world is seen as a continuous flow and change which are essential features of nature. They are in harmony with the Tao. The cyclic patterns of coming and going, expansion and contraction operate on the principle of opposites.

Two polar opposites Yin and Yang set the limits of the cycles of change. the interplay of Yin and Yang, the primordial pair of opposites is the principle that guides all movements of the Tao. There is unity of all things.

The original meaning of the words Yin and Yang was that of the shady and sunny sides of a mountain, a meaning which gives a good idea of the relativity of the two concepts. "That which lets now the dark, now the light is Tao".

From the very early times, the two archetypal poles of nature were represented not only by bright and dark, but also by male and female, firm and yielding, above and below.

The pair of Yin and Yang is the grand lectomotive that permeates Chinese culture and determines all features of the traditional Chinese way of life. Life is the blended harmony of the Yin and Yang.

Chinese views on mind are thus based on a collective way of thinking and not individual. There is harmony of consciousness such that the past, present and future are co-existent, mind has the power to access them and therefore it transcends time and space, that is why they are able to explain dreams, ESP (Extra Sensory Perception) Hypnosis, among others.

Chinese Concept of the Self and its Relation to Mind

The self has generally been defined as that unique existence that corresponds to a personal identity. This implies an inner agent or force with controlling and directing functions, over motives, fears, needs, etc.

According to Eastern thought a human being is endowed with two "types" of selves, namely, the inner self and the outer self. The inner self is the true self, innermost, hidden, secret and pure: It is uncontaminated. The outer self, on the other hand, is impure, contaminated, full of prejudices which arise from interaction with the outside world.

Robert Shone summarizes the Eastern concept of self by distinguishing between five different levels; interaction between these produces what may be called personality and/or identity. These five levels are:

1. The true self
2. The conscious self
3. The unconscious self
4. The collective unconscious which surrounds the self
5. The super conscious self

The above produce a complex unity of many "I's". The superconscious self is the "eye" which influences all others and determines one's personality and identity. The concept of self can be contrasted with that of Atman in Indian philosophy and that of spirit in African philosophy. "The Atman or self, originally meant life breath and then gradually acquired the meaning of feeling, mind, soul and spirit. (C.Sharma, A Critical Survey of Indian Philosophy, Motilal Banarsidass, Delhi, 1987, pg. 19).

According to Sharma, the true self, has been the main topic of investigations in the upanishads which are texts which contain sacred teachings that have been handed down by Indian philosophers of old. They teach that "the body is not the self, though it exists for the self. The dream - experiences are not the self, though they have a meaning only for the self. The self is not an abstract formal principle of deep sleep either. The "eye", the body, the mental states, the presentation continuum, the stream of consciousness - are all mere instruments and objects of the self. The self is the ground of waking dream and sleep states, and yet it transcends them all. The self is universal, immanent as well as transcendent. The whole universe lives and moves and breathes in it. It is immortal, self-luminous, self-proved and beyond doubt and denials, as the very principle which makes all doubts, denials and thoughts possible". (ibid pg. 20)

It is the ultimate subject which can never become an object and which is to be necessarily presupposed by all knowledge (ibid pp. 20 - 21). The individual Self is in fact no longer individual but universal

Whereas the Chinese concept of self encompasses the "Is" which form a complex unity and the "eye" which influences all others, the concept of the Atman in Indian philosophy is a self which is the highest thing known and it is the nearest to the absolute ie Brahman, though it is itself not the Absolute. The Absolute is Brahman which is the object of the self. It manifests itself as the subject as well as the object and transcends them both.

To some Indian philosophers the Brahman is God. It is the personal and immortal God and matter and selves alike form His real body, He being the Soul of nature and the Soul of souls. The Cosmic Brahman is regarded as the cause of production, maintenance and destruction of the universe. All beings arise from Him, lie in him and are absorbed in him. (Ibid pg 27). Nature is the body of God, who is its soul. Earth, water, fire, air, the sun, the moon, the stars, the sky, the quarters, the rivers, the mountains, all beings, all creatures, all life, all senses, all speech, all minds are the body of God.

The Indian concept of Brahman can be contrasted with the Chinese concept of supreme ancestor and the elements of earth wood, metal fire and water, which explain abnormal natural phenomena as the deliberate manifestations of a Divine power, used by it to warn men of their improper behaviours (Wright op cit pg 43).

The African concept of spirit can also be contrasted with Chinese concept of spirit whereby the spirits are an animation of everything unseen and that God uses the highest spirit of them. Over all other spirits and forces was "the sovereign high" (or supreme ancestor) who on earth must mediate between him and the people). (Weech op.. cit pg 341).

The Chinese can thus be said to have had a high capacity for abstract thought. They had equipped themselves with writing and their use of words show a high level of thought, which was not only restricted to concrete things such as earth, metal wood etc but included abstract terms such as loyalty, unselfishness and righteousness.

They were apparently struck by the quality of pattern in the universe and moved to express their thoughts about this. They made a series of patterns, arrangements of straight lines in threes and sixes each line either whole or broken by a space in the middle. These patterns were to represent the build of the universe as they perceived it. For example the arrangement \equiv stood for heaven, sky and the qualities of hardness, brightness and maleness

The arrangement $\equiv \equiv$ stood for earth and for the qualities of softness (that is receptiveness), darkness and femaleness. There was also $\equiv \equiv$ for fire $\equiv \equiv$ for water, and so on.

Every three, line pattern, having been combined with every other, sixty four arrangements were arrived at. By experimenting with these variations the patterns, could be used as a guide to the future, for if the things and forces of the universe and their natures could be studied under one's eye in the form of written symbols, the problem of what was going to happen could be worked out. In this manner are quantities symbolized and the problems regarding them worked out by methods of algebraic thinking (Weech op. cit pg 339). This explains how the Chinese could predict the future and interpret dreams as mentioned earlier.

From the Chinese concept of mind can be inferred a concept of memory. Memory is shared and dynamic and is not compartmentalized.

Chinese explanation of the self is closely related to the descriptions on mind put forward by many thinkers. The self for the easterners may as well be mind to the westerners only that there are many selves implying many minds. Memory may thus be a complex unity of many "memories", according to Chinese thought.

The Philosophical implications for the conception of memory are that, memory must be identical with mind according to the Chinese. Since past, present and future are co-existent then memory for them is a continuous process that can be accessed at will. For the easterners, therefore, memory cannot temporally be compartmentalised but exists beyond time and space and can be accessed at will.

CHAPTER FOUR

THE AFRICAN CONTRIBUTION TO MEMORY THOUGHT AND SYNTHESIS WITH THE EASTERN AND WESTERN PHILOSOPHY

Available literature on memory hardly mentions the African contribution to the subject and without it a comprehensive worldview is lacking. The study contends that the African and eastern views need to be incorporated in the overall contribution to memory thought in order to indeed make a valid claimfull to knowledge. The African contribution is two-fold, although more research needs to be done in the field. Firstly, there is the contribution by ancient Egypt in North Africa, and secondly by traditional African cultures.

It has been a major assumption of the study that an understanding of the concept of mind would be of great use in understanding the concept of memory. The concept of mind as understood by the Africans is mainly at the collective as well as individual levels. Further, studies in African belief systems have shown that there exists such a world as the spirit world which the study chooses to call the African concept of mind. The spirit world involves what Mbiti (op cit pg 75-91) has called the "living dead" or the souls of the departed. These spirits have been known to influence events in society as well as contributive to the general wellbeing of the society. God who is the divine and highest mind or spirit is also part and parcel of the traditional African society. The African concept of mind will also be discussed.

The traditional African view of memory will be put forward and the concept of Time, (which is tied up with that of spirit) and then the ancient Egyptian mystery system.

The Naming System

Definitions of memory put forward have shown that memory is either a process or a substance. For the western thinkers memory appears to be either the former or the

latter or even both. However, for the Africans memory may also be both, but is expressed in a totally different way, apart from being the mental function of storing information in the "mind" or brain.

The African naming system was more than just a mark of identity for things, people or events. As Mbiti explains, nearly all African names have a meaning. The childrens' naming ceremony, he opines, was an important occasion in many societies. Some names marked the occasion of the child's birth, for example, if the birth occurs during rain, the child would be given a name which means rain, or "rainy" or water. Some names describe the personality of the individual, or his character, or some key events in his life.

More important to the study were the names given to children which came from the living dead. The latter were thought to have been partially "re-incarnated" in the child, especially if the family observes certain traits in common between the child and a particular living dead. Sometimes, the latter would appear in the form of a dream urging the parents to name the child after him or her.

In some societies it was the custom to give the names of the grandparents to the children.

Among the Luo of Kenya, the child's name was sought when the child was crying. During this period different names of the living dead were mentioned, and if the child stopped crying when a particular name was called out, then the child received that name.

Apart from the naming of children, there was also the naming of historical landmarks after departed heroes. The naming of the latter was symbolic in that it stirred up feelings of bravery for the society to emulate.

There was also the naming of places where historical battles were won, some of which became shrines which could give faithful magical powers.

From the above accounts of the naming system it can be seen that memory was external and dynamic rather than internal and dormant. It was a process as well as a substance. The memories of the departed were stored in the new life of newly born children and could not be forgotten or erased from them, so long as the process of naming continued. This continuity of the living dead in the personality of the person to whom the names were given constituted a process of memory in itself. The living dead were not only reincarnated in one person, but several, suggesting a collectiveness or shared memory. This could be said to constitute the collective mind at work. It was however individual in the sense that the vehicle used to name, the individual, had a "life" of his or her own which was unique to him or her alone.

The African Concept of Time

According to Mbiti, traditional African concept hold Time as a two-dimensional phenomenon, with a *past*, and *present* and virtually no future. Mbiti uses two Swahili words to replace the English words, past present and future, namely "sasa" and "zamani". Sasa covers the "now period" and has a sense of immediacy, nearness and "now-ness" and is the period of immediate concern for the people since that is where or when they exist. It is the time region in which people are conscious of their existence and within which they project themselves, both into the short future and mainly into the past (zamani). Sasa, is in itself a complete or full time dimension, with its own short future, a dynamic present, and an experienced past. Mbiti calls this the micro-time (little time). The micro-time is meaningful to the individual or community only through their participating in it or experiencing it.

Zamani is not limited to what in English is called the past. It also has its own "past", "present" and "future" but on a wider scale. It might be called macro-time (big-time). Zamani overlaps with sasa and the two are not separable.

Human life, says Mbiti, has another rhythm of nature which nothing can destroy. On the level of the individual, this rhythm includes birth, puberty, initiation, marriage, procreation, old age, death, entry into the community of the departed and finally entry into the company of the spirits.

As the individual gets older, opines Mbiti, he is in effect moving gradually from the sasa to the zamani. His birth is a slow process which is finalised long after the person has been physically born.

Death, is a process which removes a person gradually from the sasa period to the zamani. After the physical death, the individual continues to exist in the sasa period and does not immediately disappear from it. He is *remembered* by relatives and friends who *knew him in this life and who have survived him*. They recall him by name, though not necessarily mentioning it, they remember his personality, his character, his words and incidents of his life. If he "appears" (as people believe), he is recognised *by name*. The departed appear mainly to the older members of their surviving families and rarely or never to children. They appear to people whose sasa period is the longest.

This recognition by name, is extremely important, the appearance of the departed, and his being recognised by name, may continue for upto four or five generations, so long as someone is alive who once knew the departed personally and by name. When, however, the last person who knew the departed also dies, then the former passes out of the horizon of the sasa period, and in effect he now becomes completely dead as far as the family ties are concerned. He has sunk into the zamani period. But while the departed person is remembered by name, he is not really dead, he is alive and such a person Mbiti calls the *living dead*. The living dead is a person who is physically dead but alive in the memory of those who knew him as well as being alive in the world of spirits. So long as the living dead is thus remembered, he is in the state of *personal immortality*.

This personal immortality is externalised in the physical continuation of the individual through procreation, so that the children bear the traits of their parents or progenitors. From the point of view of the survivors, personal immortality is expressed or externalised in acts like respecting the departed, giving bits of food to them, pouring out libation, and carrying out instructions given by them either while they lived or when they appear.

Procreation is the absolute way of ensuring that a person is not cut off from personal immortality.

The acts of pouring out libation (of beer, milk or water) or, giving portions of food to the living dead, are symbols of communion, fellowship and remembrance. They are the mystical ties that bind the living dead to their surviving relatives. Therefore these acts are performed within the family. The oldest member of the family is the one who has the longest *sasa* period, and therefore the one who has the longest memory of the departed. It is he who performs or supervises these acts or remembrance on behalf of the entire family, addressing (when the occasion demands) the symbolic meal to all the departed (living dead) of the family, even if only one or two of the departed may be mentioned by name or position (e.g. father, grandfather).

With the passing of time, the living dead sink beyond the horizon of the *sasa* period. This point is reached when there is no longer anyone alive who remembers them personally by name. Then the process of dying is completed.

But the living dead do not vanish. Out of the existence: they now enter into the state of *collective immortality*. This is the state of the spirits who are no longer family members of the human families. People lose personal contact with them. The departed in this state become members of the family or community of the spirits, and if they appear to human beings, they are not recognised by name, and may cause dread and fear.

If the living dead are suddenly forgotten, this means that they are cast out of the *sasa* period, and are in effect excommunicated their personal immortality is destroyed and they are turned into a state of non-existence. And this is the worst possible punishment for anyone.

The departed, says Mbiti resent it, and the living do all they can to avoid it because it is feared that it would bring illness and misfortunes to those who forget their departed relatives.

Paradoxically, death lies "in front" of the individual, it is still a "future" event, but, when one dies, one enters the state of personal immortality which lies not in the future but in the *zamani*.

Mbiti's account of the African concept of Time holds important philosophical implications for the concept of memory as seen by the Africans. From Mbiti's account of the traditional practices of the Africans, concerning the living-dead, one can infer a view or theory of memory.

Since naming of children, after the departed is so important for their continuity, it means that memory is a collective entity, implicit in individuals. It ensures personal immortality such that the individual never "dies" as well as collective immortality where the living dead exist, together. The link or tie, between the dead and the living is a form of memory which is kept alive by appeasing the spirits. Memory thus becomes a metaphysical entity which does not transcend time and space but is accessible and not so mystical.

A.J. Ayer, is of the opinion that analysing of the use words, can be a way of revealing the nature of what the words designate. For instance, he says, :If we can specify, the conditions under which the sentence form" X remembers Y" is satisfied, we have answered the question, what memory is (A.J. Ayer, op. cit. pg. 18).

The study has already established under which conditions the living, remember the living-dead and thus this, constitutes memory.

According to the Africans therefore, memory, need not be a storage system in the brain but can also be a process that is continuing through procreation.

Mind and memory appear to be identical in the African sense because the former is collective and so is the latter, and the latter cannot exist without it. The African standpoint can therefore be said to be dualist as the past and present are interfused.

Just as there are ways of improving one's memory according to western writers on memory, so are there African systems of remembering. These, are what the study chooses to call African mnemonics.

African mnemonics, from available research, appear to be dynamic and vivid in their respective societies. They include story telling, iconography, wise sayings, music, dances songs as well as naming, the latter of which has already been touched on in some detail. All these systems are based on ethics and causality.

Since, the study is of the view that more research is needed in the field of African mnemonics so as to tap what the rich African culture has to offer, the study will attempt to show the African view based on the already mentioned systems.

Traditional African stories that were told to children not only had a moral to convey, but were also a learning process. This process included that of memory because it was easy for children to remember to do good rather than bad because of the strong messages that the stories conveyed. For example bad attitudes such as greed were condemned in the society and nothing sent the message home, such as a good story with a strong moral message against greed. In the story of the greedy hare, who tried to follow two paths simultaneously and on an overfilled belly, and then having to burst open on the way because his legs could not widen any further, the punishment, meted out to hare is so intense and so terrible that anyone tempted to be greedy would think twice about it. The terrible end that hare meets was an apt reminder that the only price for greed was pain or even sudden death. This story and others in traditional African societies can be said to have been a memory system in themselves thus showing that African mnemonics did in fact exist, albeit in a different form.

African mnemonics was also prominent, in music, song and dance. These systems were instrumental in conveying various messages to the society and remained implicit in the minds of the people ready for recall at any time. A particular tune was played for a particular song and anyone hearing the tune would know instantly what the song was about. Thus, marriage, naming, circumcision as well as war songs apart from being used to celebrate occasions were also a learning process for children as well as new initiates to the society.

Song and dance were effective in conveying messages to the society such that the colonial masters appealed to them whilst training Africans to read and write and especially the alphabet. A popular African tune would be used to sing the alphabet, right through to the end and guaranteed results that would last for a long time. This, can be said to have been an effective memory system, because children would never forget the alphabet so long as it was done within their cultural context and with beautiful familiar tunes that would always help them remember their "a," "b" ,"cs". Vernacular, thus proved to be a powerful tool because memory was improved through language which they could relate to, and at the same time learning took effect.

African iconography was an effective tool for remembering past heroes as well as generally presenting the culture of the people. There were wood sculptures, carvings from stone as well as clay models. All these reflected the activities that took place in the society. Inscriptions were also popular by using dry banana leaves which resembled present day white chalk, used on blackboards in schools and colleges. A grandmother among the Luhya of Bunyore in western Kenya, for examples recalls how she used to record the ages of her children during the post colonial period. She would use a dry banana leaf to inscribe on the walls of her hut short sticks, that would correspond to the age of her child. Thus if the child turned two years during the planting season, she would draw two short sticks and would continue the process thus enabling her to keep track of the ages of her children. This method was, but one of the numerous methods, of keeping records of the various events in the society, and the study maintains that more research in the rich African cultural field would yield much more interesting results.

Other works of art such as carvings were an indispensable record of the culture of the African people. For example, heroes in the society were honoured, and in the process remembered forever by carvings of either wood, clay or stone, which depicted them or things they might have associated themselves with such as a walking stick or even an animal such as a cow or a bull named after them. These carvings were displayed in homes or shrines depending on the importance of the heroes, to be remembered by generations to come.

African iconography was thus an effective tool, for not only maintaining records of events in the society but also for generally preserving the rich culture of the people. It was in itself a powerful memory system.

As has already been mentioned, more research on African on memory systems needs to be carried out because of the richness of the African culture. The above systems are but pointers to what the African view may entail. But, they serve to show that memory systems do in fact exist in the traditional African setting.

Bantu Hierarchization of Beings

According to Alexis Kagame, (*La philosophie Bantu Rwandaise de l'etre*, 1956), among the Bantu, there are different levels of existence as is to be found in Aristotle's psychology under the elaboration of the concept of "soul" and the hierarchization of things in nature from the lowest to the highest forms of existence, namely God, man, animal, vegetation and mineral.

Bantu Ontology is tied up with this hierarchization in the sense that four categories of things emerge:

1. Muntu - being with intelligence (man).
2. Kintu - being without intelligence (thing).
3. Hantu - being indicating locality (place, time)
4. Kuntu - being with experience mode (or manner in which being is)

Anything thinkable except God would fall under any of these four categories. God is not considered as an essence as an "ntu", something which could or could not exist. He ought to be called the pre-existent an attribute that implies an eternal existence.

Apart from Kagame's hierarchial structure of forms of existence is also the African belief in levels of being from the living, living dead, ancestors, spirits, God.

According to John S Mbiti, (op cit. pg. 75-91). The spirits in general belong to the ontological mode of existence, between God and Man.

There are two categories of spiritual beings: Those which are created as such, and those which were once human beings. These can be subdivided into divinities, associates of God, ordinary spirits and the living dead.

Divinities are on the whole thought to have been created by God, in the anthological category of the spirits. They are associated with Him and often stand for this entities or manifestations either as personifications or as the spiritual beings in charge of these major objects or phenomenon of nature.

Spirits are the 'common' spiritual beings beneath the status of divinities, and above the status of men. Myriads of spirits are reported from every African people, but, according to Mbiti, they defy description almost as much as they defy the scientists test tubes in the laboratory. Most people seem to believe that they are the remains of human beings when they die physically. The spirits are invisible and possess men. They are blamed for forms of illness like madness and epilepsy. If they are neglected misfortune may befall the community. Shrines are put up for them so as to give offerings.

It is through the living dead that the spirit world becomes personal to men. They are still part of their human families and people have personal memories of them. They are the intermediaries between God and men. They are the guardians of family affairs, traditions, ethics and activities: They know the needs of men, they have "recently" been here with men, and at the same time have full access to the channels of communicating with God directly or through their own forefathers.

From the above, it can be inferred that in the African view mind transcends time and space. It is not only an individual but also collective mind at work. Mind to mind communication is possible. Higher minds are persuaded through rituals while lower minds are instructed through taboos. This can be said to be an idealist position. The practice of naming is important as the mind lives on in future posterity.

Mind is thus the provider of conscience, of moral duty and of virtue and vice. The body only acts as a medium for practical reason otherwise the instructions are "spiritual". Collective mind instructs but the individual mind persuades. There is thus a distinction between the body and the mind. The collective mind has controlling powers over the individual mind and hence determines the rule of operation.

Mbiti is of the opinion that whatever science may do to prove the existence or non-existence of the spirits, one thing is undeniable, namely that for African peoples, the spirits are a reality which must be reckoned with, whether it is a clear, blurred or confused reality. And it demands and deserves more than academic attention.

The traditional African view of mind thus reflects a synthesis of the Eastern and Western views of mind, it includes not only the individual mind but also the ethno-cultural mind, national mind, regional mind, mind of spirits (both good and bad) mind of ancestors, mind of God, the existential self, free will, thus showing its collective aspect.

The Egyptian Mystery System

It is a major assumption of this study that memory theories from the Greeks to Hobbes have their origin in the Egyptian mystery system of ancient North Africa. Hence the need to point out some of the Egyptian mysteries relevant to the study.

According to George, G.M. James, the teachings of the Egyptian mysteries, reached other lands centuries before they reached Athens. These teachings include the theory of salvation, the doctrine of opposites, the doctrine of the atom, the doctrine of the four qualities and four elements and memphite theology. (James op cit).

George G. James maintains that the memphite theology of Egypt is the basis of all important doctrines of Greek philosophy. A deeper study of this theology shows that it is at the heart of the Egyptian mystery system and so the need to reproduce relevant portions of it, here. James not only shows importance for modern scientific research but also its being the source of modern scientific knowledge.

The Memphite Theology

This is "an inscription on a stone, now kept in the British museum. It contains the theological, cosmological and philosophical views of the Egyptians ... It is dated 700 B.C. and bears the name of an Egyptian pharaoh who stated that he had copied an inscription of his ancestors. This statement is verified by language and typical arrangement of the text, and therefore assigns the original date of the memphite theology to a very early period of Egyptian history i.e. the time when the first dynasties had made their new capital at Memphis: the city of the God Ptah, i.e. between 4000 and 3,500 B.C. (Intellectual Adventure of man by Frankfurt, p. 55)".

The text of Part I presents the Gods of Chaos. Part II presents the primate of the Gods, or the God of Gods, through whose (Logos) creation was accomplished (James op cit. pg. 139).

According to the text, the primate of the Gods Ptah, conceived in his heart everything that exists and by his utterance created them all. He is first to emerge from the primeval waters of Nun in the form of primeval Hill. Closely following the Hill, the God Atom also emerges from the waters and sits upon Ptah (the Hill). There remain in the waters four pairs of male and female gods (the ogdoad, or the unity of eight - gods), bearing the following names:

1. Nun and Naunet i.e., the Primeval waters and the counter heaven.
2. Huh and Hauhet, i.e. the boundless and its opposites.
3. Kuk and Kauket, i.e. darkness and its opposite; and
4. Anun i.e. (Amon) and Amaunet, i.e. the hidden and its opposite, (Egyptian Religion by Frankfurt, P. 20; Intellectual Adventure of Ancient man by Frankfurt pg. 21).

The philosophy of Part I... This arrangement in the memphite theology could only mean that the ingredients of the primeval chaos contained ten principles: four pairs of opposite principles, together with two other gods: Ptah representing mind, thought and creative utterance, while Atom joins himself to ptah and acts as demiurge and executes the work of creation. From such an arrangement in the cosmos we are in a position to infer the following philosophies:

- (a) Water is the source of all things.
- (b) Creation was accomplished by the unity of two creative principles: ptah and Atom, i.e. the unity of mind (nous) with Logos Creative utterance).
- (c) Atom was the Demiurge or intermediate God in creation. He was also sun God or fire God.
- (d) Opposite principles control the life of the universe.
- (e) The elements in creation were fire (Atom) water (Nun), earth (Ptah or Tat-jenen) and Air.

Individual Greek Philosophers to whom portions of the philosophy of the memphite theology has been assigned: Of these doctrines "water as the source of all things" has been assigned to Thales (Zeller: Hist of Phil. p. 38): that of the Boundless or unlimited", has been assigned to Anaximander (Zeller: Hist of Phil. p. 40). While that of "Air as the basis of life" has been assigned to Anaximenes (Zeller; Hist of Phil. p. 42). Furthermore the doctrine that "Fire underlies the life of the universe", has been assigned not only to Pythagoras who spoke of the functions of the Central and peripheral fires; but also to Heraclitus who spoke of the transmutation of fire into other elements and their transmutation back into fire. Also Democritus who spoke of fire atoms, as filling space as the mind or soul of the world; and Plato who spoke of a world-soul, which is composed of fire atoms (W. Turner's Hist. Phil. p. 42, 55; Zeller's Hist. of Phil. pg. 53; 149; Plato's Timaeus, 30 A; B.P. Alexander's Hist of Phil. p. 40).

Likewise the doctrine of opposites has been assigned, not only to Pythagoras, who spoke of the elements of the unit as odd and even; but also to:

- (a) Heraclitus who spoke of "unity of warring opposites",
- (b) Parmenides who spoke of the distinction of being and not being,

- (c) Socrates who spoke of things as being generated from their opposites; and
- (d) Plato who spoke of ideas and Noumena as real and perfect, but phenomena as unreal and imperfect (The Phaedrus of Plato p. 250; Parmenides 132 D; Aristotle metaphysics 1,6; 987 b, 9, Plato Phaedo 70E; Zeller's Hist. of Phil. p. 51; 61, 68; The Timaeus, p. 28).

According to the text of Part II the Gods of order and arrangement in the Cosmos are represented by nine Gods, in one God-head, called the Enead. Here Atum (Atom), the source of the ogdoad, is also retained as the source of Gods of order and arrangement. Atum (Atom) names four pairs of parts of his own body, and thus creates eight gods, who together with himself become nine. These eight Gods are the created Gods, the first creatures of this world; and Atum (Atom), the creator God, the Demiurge of whom Plato spoke.

The gods whom Atum (Atom) projected from his body were:

- (i) Shu (Air)
- (ii) Tefnut (Moisture)
- (iii) Gets (Earth) and
- (iv) Nut (Sky);

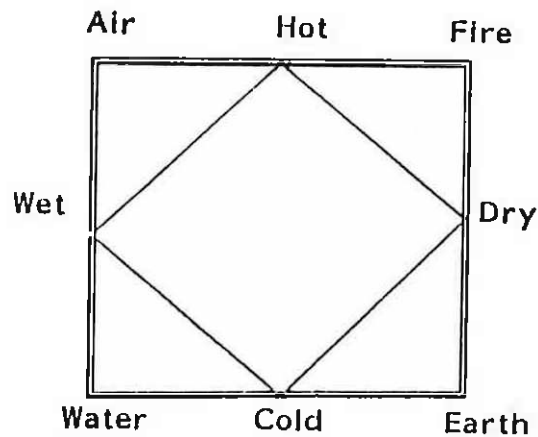
who are said to have given birth to four other Gods:

- (v) Osiris (the God of omnipotence and omniscience)
- (vi) Isis (wife of Osiri's female principle)
- (vii) Seth (the opposite of good).
- (viii) Nephthys (female principle in the unseen world).

(Plutarch: Isis et Osiris, 355A; 364C; 371 B; Frankfurt; Intellectual Adventure of Ancient Man; p. 66-67).

In the third part of Memphite Theology, the primate of the Gods is represented as *ptah*: Thought, logos and creative power, which are exercised over all creatures. He transmits power and spirit to all Gods, and controls the lives of all things animals and men through his thought and commands. In other words it is in him that all things live, more and have their eternal being. Also relevant to the study is the following:

The Doctrine of the Four Qualities and Four Elements



The History of the following ancient theory of "The four qualities and four elements" provides the world with the evidence of the Egyptian origin of the doctrines of:

- (a) Opposites or contraries
 - (b) Change or transmutation and,
 - (c) The life and function of the universe is due to either of four elements: fire, or water, or earth or air.
1. This ancient theory was expressed by a diagram formed by outer and inner squares.
 2. The corners of the outer square carried the names of the elements; fire, water, earth and air.
 3. The corners of the inner square, being at the mid-points of the sides of the outer square, carried the hot, the dry, the cold and the wet.
 4. The diagram explains that fire is hot and dry, earth is dry and cold. Water is cold and wet, and air is wet and hot.
 5. Accordingly water is an embodiment of cold and wet qualities and when the cold quality is replaced by the hot quality, the element, water is changed into the element air, with the hot and cold qualities.
 6. Consequently, transmutation is definitely implied with the teaching of this symbol.

7. It is the oldest teaching of physical science and has been traced to the Egyptians, as far back as 5000 B.C.
8. It shows that Plato and Aristotle (who had been credited with the authorship of this teaching) derived doctrines or portions of them from the Egyptians. (Reader's Digest May 1952 pg. 72).

It is generally assumed that the first recorded beginnings of philosophy have their origins in Ancient Greece. However evidence available to the study show that this is not the case. Authors such as George G. James, Henry Olela and Cheikh Anta Diop have attempted to successfully show that Ancient Egypt was the cradle of these so called "first recorded beginnings of philosophy" and not ancient Greece.

Many authors such as Radhakrishnan, Copleston among many others credit ancient Greece with the origins of philosophy. According to S. Radhakrishnan (History of Philosophy, Eastern and Western vol. II. George Allen and Unwin London, 1957 p. 26), philosophy in the west is generally said to begin with the Greeks. He says that "the Greeks were pre-eminently fitted, on account of certain national characteristics to produce an independent and lasting system of philosophy. It was their impartiality combined with a strong sense of reality and an equally strong power of abstraction that enabled them to set up a strength of independent human thought, the Logos which could claim to explain reality in a natural way in place of the mythological creation of artistic imagination".

He says "the Greeks not merely formulated all fundamental questions and its problems of philosophy by themselves no mean achievement, but also answered them with transparent clearness, which is peculiar to the Hellenistic mind".

Radhakrishnan states further, that, "the Greeks fashioned for philosophic thought the basic ideas in which the whole of later European philosophy, science and theology moved and with which they still work. The absence of religious dogmatism in their philosophy produces both an impartial scientific explanation of the world as well as a morality which is unfettered by authority or revelation". Greek philosophy, Radhakrishnan maintains" like Greek art and poetry grew out of the mind of the people

and formed the organic component of Hellenic. Culture", he says, "it has perfect artistic form in presentation and stands before us in eternal unfolding freshness like the poems of Homer or the master pieces of periclean art".

It is quite clear from the above stylish account of Grecian achievements that the author is not only misguided but misinformed as well. To say that "the absence of religious dogmatism in their philosophy" is indeed unacceptable, considering the fact that the Greeks (as will be shown later) derived their philosophies from Egyptian Theology. Their belief in the gods also manifested itself in their philosophy e.g. Mnemosyne (mnemonics) was a goddess who was worshipped by the Greeks.

James is of the opinion (and the study is convinced by this), that Greek philosophy did not "grow out of the mind of the people" as Radhakrishnan puts it, but was borrowed, if not stolen from the Egyptians.

James says that owing to the peloponnesian wars the period of Greek philosophy (640-322 BC) was a period of internal and external wars and was thus unsuitable for producing philosophers. This period "was exactly the opposite to one of peace and tranquillity, and therefore it could not be expected to produce philosophy. The obstacles against the origin and development of Greek philosophy, were not only the frequency of civil wars; and the constant defence against Persian aggression; but also the threat of extermination from the Athenian government, its worst enemy: (James, op cit. pg. 26).

Another author who holds similar views to that of Radhakrishnan is F.S.J. Copleston although not so rigid. Copleston also credits the Greeks with the beginning of philosophy. He says "... early Greek philosophy though naturally the work of individuals was also the product of the city and reflected to a certain extent, the reign of law and the conception of law which the pre-socratic systematically extended to the whole universe in their cosmologies. Thus in a sense there is a certain continuity between the Homeric conception of an ultimate law or destiny or will be governing gods and men, the Hesiodic picture of the world and the poet's moral demands and the Ionian cosmology... although Ionia was a direct meeting place of west and east, it has not been shown that the Egyptians had a philosophy to communicate ... Greek philosophy was

closely bound up with mathematics and it has been maintained that the Greeks derived their mathematics from Egypt and their astronomy from Babylon. Now that Greek mathematics was influenced by Egypt and Greek astronomy by Babylon is more than probable: for one thing, Greek science and philosophy began to develop in that very region where interchange with East, was most to be expected... But that is not the same as saying that Greek scientific mathematics derive from Egypt or their astronomy from Babylon ... scientific geometry was not developed by them but by the Greeks". (History of Philosophy vol. I Greece and Rome, Search Press London, 1946. pp. 13-14).

Although Copleston appears to maintain an objective view his views are still clouded by the belief that the world owes the beginnings of philosophy to Greece. Copleston, like Radhakrishnan is obviously unfamiliar with James' and Diop's accounts of Egyptian philosophy. Copleston says that scientific geometry was developed by the Greeks, this still leaves out it's origin for to develop is not the same as to create because one develops something which is already there in it's original form.

Perhaps, as James maintains, the portions of Egyptian philosophy that were stolen from Egypt were adulterated by individual Greek philosophers, and so their lack of totality as whole systems of philosophy and warring schools attempting to explain one idea in different ways.

The Legacy of Egypt

James says that " According to History, Pythagoras after receiving his training in Egypt, returned to his native island, Samos, where he established his order for a short time, after which he migrated to Croton (540 BC) in Southern Italy, where his order grew to enormous proportions, until his final expulsion from that country. We are also told that Thales (640 BC) who had also received his education in Egypt, and his associates: Anaximander and Anaximenes, were natives of Ionia in Asia Minor, which was a stronghold of the Egyptian mystery schools, which they carried on. (Sandford's, the International World, p. 195-205). Similarly, we are told that Xenophanes (576 BC), Parmenides, Zeno and Melissus were also natives of Ionia and they migrated to Elea in Italy, and established themselves and spread the teaching of the mysteries.

In like manner we are informed that Heraclitus (530 BC) Empedocles) Anaxagoras and Democritus were also natives of Ionia who were interested in Physics. Hence, in tracing the course of the so-called Greek philosophy, we find that Ionian students after obtaining their education from the Egyptian priests returned to their native land while some of them migrated to different parts of Italy, where they established themselves.

Consequently, history makes it clear, that the surrounding neighbours had all become familiar with the teachings of Egyptian mysteries many centuries before the Athenians, who in 399 BC sentenced Socrates to death (Zeller's *Hist. of Phil.*, p. 112, 127, 170-172) and subsequently caused Plato and Aristotle to flee for their lives from Athens, because philosophy was something foreign and unknown to them. For this same reason, we would expect it either, the Ionian or the Italians to exert their prior claim to philosophy, since it made contact with them long before it did with the Athenians, who were always its greatest enemies, until Alexander's conquest of Egypt, which provided for Aristotle free access to the library of Alexandria.

The Ionians and Italians, made no attempt to claim the authorship of philosophy, because they were well aware that the Egyptians were the true authors. On the other hand, after the death of Aristotle, his Athenian pupils, without the authority of the state, undertook to compile a history of philosophy, recognised at that time as the *sophia* or wisdom of the Egyptians, which had become current and traditional in the ancient world, which compilation, because it was produced by pupils who had belonged to Aristotle's school, later history has erroneously called Greek philosophy, in spite of the fact that the Greeks were its greatest enemies and persecutors, and had persistently treated it as a foreign innovation. For this reason, the so-called Greek philosophy is stolen from Egyptian philosophy, which first spread to Ionia thence to Italy and thence to Athens. And it must be remembered that at this remote period of Greek history, i.e. Thales to Aristotle 640 BC - 322 BC, the Ionians were not Greek citizens but at first Egyptian subjects and later Persian subjects".

Zeller's *Hist. of Phil.* p. 37; 46; 58; 66-83; 112; 127; 170-172.

William Turner's Hist. of Phil. p. 34; 39; 45; 53. Student Hist. of Phil. p. 15. B.D. Alexander's Hist. of Phil. p. 13; 21. Sandford's The Mediterranean World, p. 157; 195-205; p. 9-10.

James' account of the legacy of Egyptian philosophy has important implications for memory theories by Parmenides and Diogenes whose theories simply proceed from Ionians who in turn borrowed from the Egyptians.

Directly significant to these theories are the Egyptian doctrines of the four qualities and four elements and the memphite theology, the doctrine of opposites and the doctrine of the Nous or world soul.

The Doctrine of the Nous

According to James, "the doctrine of the Nous, or world soul, is a principle of Egyptian magic which says that "the qualities of an animal are distributed throughout its parts".

The doctrine of the Nous is connected with the Egyptian God Osiris who was represented in all Egyptian Temples by the symbol of an open eye. This symbol indicated not only sight that transcends space and time: but also omniscience as the Great mind which created and which still directs the universe. This symbol also forms a part of the decoration of all mosaic lodges of the modern world and dates back to the Osirian or sun worship of the Egyptians more than 5000 BC. This same notion was also represented by the Egyptians by a god with eyes all over him and was known as the "All seeing Eye" (Zellers Hist. of Phil., p. 809). (The Ancient Mysteries, C.H. Vail, p. 189), (Marx Muller: Egyptian Mythology), (James, pp. 100-107).

Anaximenes talks of the soul as being the source of all things, whilst James refers to it as "the Great mind." It is reasonable to contend that Diogenes' theory of memory is directly drawn from this principle. If the word soul was present in an animal and distributed throughout its parts, it was easy for him to suppose that memory must constitute the world soul which he calls air and so unequal distribution of the same would result in forgetting.

The Egyptian Magical Principle

According to James, the Egyptian Magical Principle says that, "The qualities or attributes of entities, human or divine, are distributed throughout their various parts, and contact with such entities releases those qualities".

The Doctrine of Opposites in Chinese and Ancient Egyptian Philosophy

According to the Egyptian religion opposite principles control the life of the universe whereas in Chinese philosophy the Yin and Yang are opposites which also control the life of the Universe.

A Comparison Between African, Eastern and Western Concepts of Mind

A comparison between Eastern, traditional African and Western concepts of mind, can be made by dividing mind into three levels. The individual, collective and Divine mind.

In Eastern thought with reference to the Chinese and Indians the mind is equivalent to self which may thus constitute individual mind or the subjective.

The mind is however, also divine mind which can be called God and also in other individuals thus forming a collective consciousness.

The African view is similar in the sense that there is something shared by all individuals suggesting collective mind and a good example is naming of the departed so that their memory can leave on (literally) in the persons so named.

The African view of Spirit bears a striking resemblance to the Chinese view of Spirits. Where the Africans believe that there are spirits of the water which have to be appeased so do the Chinese. The only difference is that the Chinese made human sacrifices as opposed to animals sacrifices.

The divine mind is present in all things and these views are similar with both African and Chinese. The concept of the divine mind differs in the Western world whereby God is personal to every individual, with the exception of the Spinoza's view who talks of God as Being (in all things and all things in God). Spinoza's view shows a shared mind in Western philosophy however, most Western philosophies refer to God as a simple Being who cannot be broken into parts.

The African and Eastern concepts of mind however, imply that God is present in all individuals collectively. But in the Western view God is present in every individual only uniquely to him or her.

According to Sheldon W.H. God and Polarity a Synthesis of Philosophies, (Greenwood Press, West Port Connecticut, 1970), "when we see that God must be timeless, since time involves change and God cannot change, absolutely good, intelligent living Spirit, free etc we cannot intuit these traits in the pure simplicity in which they unite in Him. We can think of them only as they occur in us in varying degrees but in addition that they are without limitations in Him." (pg 457).

It can thus be concluded that the African view of mind is a synthesis of both Western and Eastern concepts of mind. It is dynamic as in Eastern, it can be individual as in Western and it is also collective as in Eastern and it is shared.

From this view can be inferred a view of memory in that memory appears to be a process which is not only physical but metaphysical as well. The thesis that memory is a metaphysical substance and the anti-thesis that it is a physical substance capable of observation and experiment, leads to the synthesis that memory is a process that can take place within mind/brain or without.

Mind can be said to be a distributive and possessive entity. It is hierarchical, transcends time and space, it is internal as well as external and pragmatic. The same can be said of memory.

CHAPTER FIVE

SUMMARY AND CONCLUSION

The study put forward ancient theories of memory as the Thesis, the medieval Renaissance and modern theories as the anti-thesis and contemporary and african and Eastern theories as the Synthesis. Early theorists of memory were obscure in their explanations but this obscurity was reduced with the help of scientific discoveries, at a later stage. It was thus possible to come up with a worldview about memory incorporating African and Eastern views. The study showed how theories of memory evolved and were integrated into each other.

The major purposes of the study were to give a critical exposition of theories of memory from Parmenides to Hartley, trace the origin of memory thought and also show the influence of culture on the theories.

The study successfully gave a critical exposition whereby theories of memory were studied within a given period and it was shown why they actually took the turn that they did and also followed the pattern that they did. The study also introduced other ideas on mind and memory which were unmentioned by the theories and these included african and eastern views. The african contribution was shown to integrate eastern and western thought and they were analysed as relation to each other.

It was also found out that memory can be shared by society through mnemonics but at the same time each individual mind can have a unique experience. Memory, it was discovered can be picture memory or descriptive memory. It is both the produce and experience and can be manifested in both external and internal systems.

It was discovered, by the study, that theories of memory of antiquity, namely, by the Greeks, Romans, and writers, influenced by the church, did not yield adequate knowledge about the essence of human memory. The theorists were obscure in their expressions, to the point of being unintelligible, thus posing a confusion to a sceptical mind. It appears from the theories, that, had it not been for the metaphysical pre-suppositions of their predecessors, regarding the basic stuff of the universe, these

theories, stripped of their metaphysical background would have virtually nothing to offer, by way of knowledge about memory. Historians would then have to start the history of memory with Hartley in the 18th century and not Parmenides in the 4th century B.C.

The obscurity in these theories was attributed to a limited understanding about mind. Very little was known about mind at the time, and this little that was known, was not put forward in a clear manner, thus compounding further the difficulties in explaining the nature and functioning of memory. The study contends that, a clear perception of mind is necessary to any explanation of memory and ancient theories before Aristotle lack this basic requirement, hence their obscurity. The study also found that ignorance about the concept of mind was removed by Aristotle, who "acquired" knowledge about mind, thus making it possible to arrive at what Buzan calls the first scientific explanation of memory.

However, the study succeeded in establishing that Aristotle was not himself original in his theory, because he relied heavily on sources outside of Greece. In order for him to arrive at a new idea about memory, Aristotle made use of the Egyptian concept of the soul which he manipulated to explain the nature of memory. The functions of what is now called the brain, Aristotle attributed to the heart, and used this to explain memory. Although Aristotle's theory may be considered by historians of memory as a major breakthrough in memory thought, his theory, stripped of its lack of originality is subject to criticism.

Professor Joad (Philosophy Hodder and Stoughton, Great Britain, 1977) is of the opinion that most writers of philosophy hardly end up communicating any knowledge to their readers because of their being unnecessarily obscure. He opines that philosophy is a difficult subject, and most books on philosophy are unintelligible, to most intelligent people, because of not only, difficulty in subject matter but also obscurity of expression, on the part of philosophers.

The theorists of antiquity, are liable to the above charge, because they fail to express themselves clearly thus leading to confusion about memory. Joad, however, does not lay blame on the philosophers alone but also on the age in which they live. He says,

"In the middle ages, the problems, with which philosophers concerned themselves were partly set for them, by theology, and they sought to make their conclusions square with the teachings of christian revelation. Today it is by science rather than theology, that the philosopher is provided with his material, as he seeks to assess the significance and expose the limitations of the physicist's account of the universe." (Joad. op. cit. pg 32).

This is especially true of theories of memory in the medieval period, which were grossly affected by the stifling influence of the church.

Despite influences from culture, Professor Joad is of the opinion that a writer should make it his first duty to be clear and intelligible, not only in justice to himself, but also out of compliment to his readers. Few philosophers, he maintains have observed this elementary rule.

The study contends that where there is no stifling environment, philosophers should try as much as possible to address themselves to the problem, without being obscure or personal about the issue. It is only then that they can indeed lay claim to knowledge that is objective, original and devoid of all manner of personal, tastes, interests and temperaments.

It was discovered, by the study that theories of memory, beginning with Hartley were more sophisticated than previous ones, the reason being influence from developments in related scientific fields. This influence of culture of the age, was of a positive rather than a negative nature, and may be said to have shed some light on knowledge about memory. Experiments carried out by physiologists, located memory in the human brain and studies were pursued in this field to show how memory takes place. These studies are continuing until researchers can effectively state with certainty where memory is located. Knowledge, that has been acquired by these researchers, lead the study to contend that memory must take place in the brain, thus establishing a relation between brain and memory.

Since the study has already suggested that an understanding of mind would lead to an understanding of memory, for those thinkers, who equate mind with brain, it can

be said that memory takes place in the mind/brain and is as such a special faculty of the mind/brain, charged with various functions, such as storing and retrieving information. Researchers are yet to establish how and where in the brain these processes take place.

Unlike previous theorists however, the theorists from Hartley to the present can be said to avail information about memory that can lay claim to knowledge. Their findings are more convincing and more reliable because they resort to experimentation rather than speculation and they also address themselves squarely to the problem. Although knowledge about memory at this stage is not wholly, complete it serves as a springboard to further research.

From the findings of scientific research on memory, a definition of memory can be attempted. This definition would be one that equated mind with brain and would be similar to one of Reber's (Reber. op. cit pg 32) definitions which says that memory is the hypothesized storage system in the mind/brain that holds information about stimuli, events, images ideas etc. Reber talks of a hypothesized system because exact location of memory is still to be found by researchers. The idea that it is a storage system in the brain, can, however be backed by researchers.

If the study were to accept that mind is equivalent to brain, then it would also have to accept that memory takes place in the brain. However, although the study accepts this view, it must also acknowledge that for memory to be located in the brain is but one explanation but not the only one. For memory to be located in the brain is a necessary and acceptable position for researchers, but it is not sufficient in explaining other ways of looking at memory.

Thus, although, the study acknowledges the school of thought that equates mind with brain because it does so with reasons, the study also contends that mind may be something else other than brain, the latter of which is a physical substance. Mind, the study suggests, could also be a metaphysical entity, separate and apart from mechanistic systems, not physical in nature, but influencing physical things and events in the society as is evident from findings from the African and eastern conceptions of mind and memory.

Theories of memory from Parmenides to Galen can hardly be said to have yielded knowledge about memory because of their obscurities. But, from Hartley onwards, memory is seen to be, a substance in the brain which consists of various processes. The ancient theories were obscure because they relied on a worldview that originated from ancient Egypt and so can be said to have evolved from the Egyptian mystery system. They however were instrumental in assisting to produce a worldview in the west which culminated in the current position which considers memory to be a process/substance in the brain.

Since it has been shown that Egypt was the origin of ancient Greek thought, it would be wrong for historians of philosophy to attribute to Greece a legacy that rightfully belongs to Africa; this study maintains that studies of the Egyptian mysteries should be carried out and be part and parcel of the curriculum for students of philosophy.

In conclusion it can be said that knowledge about memory is limited and research about memory still needs to be done in the field so as to come up with theory memory that is not only authentic but also encompasses other philosophies, namely eastern and african. A clear perception of mind is necessary in order to arrive at a Gestaltic view of memory, a factor which theorists on memory ignored.

In Africa, philosophic sages need to be identified who can give a critical view memory and mind so as to have data for comparison with other philosophers, currently studying the subject.

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