

**THE QUEST FOR HUMAN SUBJECTIVITY :
AN ESSAY IN
PHILOSOPHICAL ANTHROPOLOGY**

A THESIS SUBMITTED TO THE GOA UNIVERSITY
FOR THE DEGREE OF
Doctor in Philosophy
IN THE FACULTY OF ARTS



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DEDICATION

This piece of work is dedicated to my parents especially my father who used to constantly remind me and give me a lot of encouragement. I cannot forget the role played by my three brothers who were ever ready to help me with regard to my work.

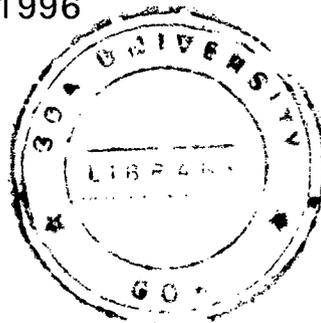
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CERTIFICATE

This is to certify that Ms. Menezes Maria Norma has satisfactorily prosecuted her course of research under the conditions prescribed by the University.

The dissertation entitled "The Quest for Human Subjectivity : An Essay in Philosophical Anthropology" is the result of her original work under my supervision. The conclusions of her study are the results of her own researches. To the best of my knowledge no part of this work has been presented to any university for any other degree.

Date : 18th September 1996



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DECLARATION

The contents of the dissertation are my findings of research done under the guidance of Dr. R.A. Sinari. I hereby declare that the dissertation has not been published anywhere. It has not been previously submitted by me for a degree of any university.

Menezes Maria Norma
18/9/96

Date : 18th September 1996

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Abstract

The main design of this work is to portray human subjectivity. In, Husserlian terminology one could phrase this portrayal as of the quest for human consciousness. As Husserl most meaningfully put it consciousness is the wonder of all wonder's, greatest riddle of all riddles, puzzle of all puzzles. An attempt has been made here to unravel the mystery of human existence/consciousness. Reference has been made to science as the body of systematically, organised Corpus of knowledge collected by the application of scientific method.

It has been appreciated that science is promising and laudable. Science has created feats in our civilization which have led to our *joie-de-Vivre* (The joy of life). It has been noted that this activity which requires reason as its foundation is exclusively human because no other species apart from humans is gifted with this capacity.

Scientific and technological revolution has changed man's life style radically. It has forced him into a new world - the world of mechanization, Organisation, automation, bureaucracy and hard rationalism. It has interred the individual in an ocean of laws, systems, and oppressive orders. What was originally promised to be a boon to mankind by its well intentional original fathers, has opened the gate to total crises.

The burdens the technological age has imposed on man have forced into oblivion his metaphysical sensibility. But the sensibility has something compulsive and inconsumable about it, the most basic search of man viz the search for the meaning of his life, is embedded in it. The sensibility constitutes the "ontological man", the inside man, " the inner space", in us, as it is variously called. It has been realized that the ontological man cannot be contained within the scientific technological life style. He emerges as an alien, a stranger, a misfit, a rebel. Science inspite of sophisticated technological devices has not been in a position to unfold the mysteries of human consciousness/mind/psyche/ego.

The extraordinary success in the domain of natural knowledge is now to be extended to the domain of the spirit. The method of natural science must be made to embrace the mysteries of spirit. Because the riddle of being human seems to be perennial challenge to the scientific - technological genius of our time.

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Acknowledgements

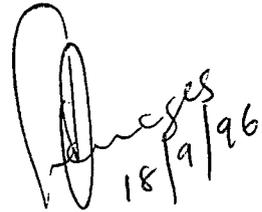
Honour is given to whom it is due : Behind every work of this sort there are individuals who were concerned with its successful completion. I shall call the illustrious roll.

I express special and whole - hearted gratitude to my supervisor, Dr. R.A. Sinari, Professor Emeritus of Philosophy, I.I.T. Bombay, under whose relentless and able guidance this thesis saw fruition. I would like to thank Professor Dr. A. V. Afonso, Head of the department of Philosophy, Goa University for his valuable suggestions; advice and help. I am deeply grateful to the Indian Council of Philosophical Research (I.C.P.R), New Delhi, for awarding a research Fellowship to do this work.

I am thankful to my parents Mr. Anthony Xavier Menezes and Mrs. Maria Rila Menezes. I appreciate and thank my loving brothers Oscar, Orfin, and Francis for giving me full support and encouragement to complete this work. I would also like to thank the library staff of I.C.P.R. Lucknow, J.N.U. Library, New Delhi, I.I.T. Bombay, Bombay University Library & Goa University Library. I am also thankful to Dr. B. A. Gomes and my colleagues at Govt. College of Arts Science & Commerce Sanquelim.

Last but not the least I express my deep gratitude to Mr. Marvin Duarte (Marvel Prints, Mapusa - Goa) for taking the trouble of

completing the work in time. I would also like to express my deep gratitude to Mr. Mohan Girap, Department of Marine Science, Goa University for his valuable suggestions and for doing the proof reading. I would like to thank Miss Madhavi Prabhu and Miss Haezel Lobo for typing the manuscript.

A handwritten signature in cursive script, followed by the date '18/9/96' written in a simple, blocky font.

Dated : 18/9/1996

Menezes Maria Norma

CHAPTER I

SCIENCE METHODOLOGY AND SCIENTISM

On the simplest level, Science is knowledge of the world/of nature.¹ There are many regularities in nature that mankind has had to recognize for survival since the emergence of HOMO SAPIENS as a species. The sun and the moon periodically repeat their movements. Some motions, like the daily "motion" of the sun are simple to observe; others like the annual "motion" of the sun, are far more difficult. Both motions correlate with important terrestrial events. Day and night provide the basic rhythm of human existence. The seasons determine the migration of animals upon which humans depended for millennia for Survival, with the invention of agriculture, the seasons became even more crucial for failure to recognize the proper time for planting could lead to starvation. Science defined simply as knowledge of natural processes is universal among mankind, and it has existed since the dawn of human existence.

The mere recognition of regularities does not exhaust the full meaning of science. However in the first place, regularities may be simply constructs of the human mind. Humans leap to conclusions; the mind cannot tolerate chaos, so it constructs regularities even when none objectively exists. Science is an organized body of knowledge and opinion which is systematically supported by formal proofs or by observational evidence. A body of knowledge is regarded as an empirical "Science" in so far as it meets two conditions: (1) It must be the out come of a particular method of inquiry. (2) It must conform to certain principles of organization. The method of Scientific inquiry may be broadly described as follows: Every scientific hypothesis is regarded as subject in principal to being disproved by observational evidence. If any hypothesis has

consequences that can be shown to be false, then it must be rejected i.e. either abandoned out right or reformulated so that the false consequences no longer follow. Every hypotheses must be supported by actual observational evidence. A hypotheses is regarded as highly confirmed only if it has some true deductive consequences that alternative hypotheses lack. The Evidence for a hypotheses must be public this means that the relevant observational and experimental situations which exhibit the phenomena to be explained must be repeatable, at least in principle. Moreover, the evidence derived from any such experiment must be observable by a large number of persons. Thus, an introspection cannot constitute scientific evidence, but an introspective report can. One of the off shoot of science is technology. There have always been technologies i.e. even stone age man had his own tools, his own technology. The contemporary sense of Technology means something more ----- i.e. it is the application of organized knowledge to help society solve its problems.

The scientific -- technological revolution has changed man's life style radically. It has forced him into new world -- the world of mechanization, organization, automation, bureauacracy, and hard rationalism. It has interred the individual in an ocean of laws, systems, and oppressive orders. What was originally promised to be a boon to mankind by its well - intentioned original fathers, has opened the gate to total crises.² As long as Science functions as a method for understanding the universe and bringing it within the ambit of a rational structure i.e., within a system of laws. It has all the epistemic viture about it. In fact Science originated with man's motivation to employ his reason to map out the pattern and the behaviour of the universe. The impetus behind the development of Science is the knowledge --- seeking drive in man. Inorder to live a life as an individual as he desires it, here and in a incarnate state, It is necessary for him to know what his environment is, how it functions and how

it influences him, and what measures he must take to transform it. The genesis of science and technology is to be found in man's thirst for heightening his experience of worldly existence and not in the belief that existence is only chimerical. Undoubtedly, the immense credibility that the natural sciences have gained and the fantastic marvels that they have made possible in various spheres of their application are largely due to their method of rationality in approaching the universe. One has to recognize the wealth of welfare they have generated for man by solving problems in agricultural, medical, chemical, transport and communication fields. The ground which sciences have prepared for space technology, for the penetration by man into the solar system surely contain the possibility of a permanent solution to the rapidly depleting earthly resources. By devising medicinal drugs, highly sophisticated methods of surgery and amazing means for health protection, medical technology has declared its commitment to the enhancement of human well-being; by inventing fertilizers, pesticides and all types of farming appliances agricultural science shows its involvement in the value of accelerating abundance, the problems of transportation are met in the construction of highways, automobiles, and jet engines; and astounding achievements in the technologies of communication and information storage from almost the heart of modern industrialization. The scientist who set the beginning of all this had a definite vision about man, about his development, and about his success against nature's antihuman forces. Actually the very birth of technology represents the rise of an urge for full freedom in human consciousness itself. The growth of technology enhances man's ability to release himself from nature -- generated evil. The ability to transform one's situation by using technical contrivances gives one self -- confidence and a peculiar sense of moving -- forward towards an enjoyable state of being.

by saying that the analogy between brain and computer may be admitted, and it may be pointed out that the computer is helpless without the programmer.

Science has advanced so much that it has succeeded in postponing death. All living things inevitably die. Man, however is unique among living things. He knows death must come; he is resigned to it. But his hope rises above the finality: he dares to postpone it. Medical science is indeed becoming increasingly able to put off the very moment of death.⁴ A race toward successful organ replacement is under way. It follows two diverse paths, transplantation surgery and the engineering of artificial organs. Sometimes the two paths intersect; those involved in organ transplantation find themselves helped by others occupied with the development of artificial spare parts. Regardless of which path they follow, however, all engaged in this effort -- physiologists, engineers, physicians, surgeons, and hard headed industrialists -- are seeking a common goal. They wish each other well and usually deny that a race is being run or that any competition exists. But the public senses a quickening pace in these medical adventures eagerly awaits the progress reports. In the modern surgeon's ambition to add transplant surgery to his repertoire of surgical techniques, he encounters surgical barriers (operative techniques) are no longer limiting factors -- surgical competence is greater than even before -- a number of sociological problems have recently arisen. The logistics of organ availability, how to meet growing demands against a scant supply, and the morality of removing an organ from a healthy person to aid another are some of the problems that are only beginning to be discussed. An ethical twilight zone holds other unanswered questions :- the legality of donor -- recipient " Contracts" the utility of cadaver parts and the grisly prospect of black marketeering in organs, the "identity" of a made -- over "person" the salability of body parts, and a potential " pound - of - flesh" Economy.

Artificial organs are currently practical. They are being used daily in the maintenance and the extension of life. The first to be used, the artificial kidney, is a highly developed device now adopted even for home use. In contrast the artificial heartlung system can be operated only by a highly skilled team, yet applications of the system have become routine in large hospitals, where open -- heart surgery is performed daily. Successful development of mechanical organs has been a glorious achievement for medicine, but the future of these spare parts has an even greater potential than their past would indicate. The heart -- lung machine serves as an example of this. Although it is commonly used in operating rooms throughout the country it is physiologically a crude device that cannot be used for more than a few hours. Yet new devices can be envisioned that can support a failing heart for days or weeks, can rest a diseased heart for months, or may even substitute, entirely for this organ. While the future of artificial internal organs is promising, problems stand in the way of successful application of these devices. The first is the tendency for blood to clot on artificial surfaces, and the second is the energy requirement of the implanted organ.⁵ As already mentioned there are a number of artificial devices, or prostheses, in current use that act as substitutes, struts, supports, or conduits in the body. All of these have greatly extended the fields of surgery in which they are applied. Examples are heartvalves, blood -- vessels grafts, artificial joints, and cardiac pacemakers. By broadest definition these are artificial internal organs. Future developments in pacemakers are being directed toward better coupling of power to the heart muscle, better energy sources that will work for an indefinite period of time, and better prosthetic materials for implementation. And further what of artificial senses ? Already "seeing" machines translate luminous images into electrical signals that can be transmitted to sensory nerves in skin near blind eyes. Using these devices,

patients have experienced light shadow patterns that allow them to gauge distance, size and depth. Sound has been transformed into colour patterns and use in decorative arts such use in a deaf child's environment might allow rapid accumulation of lip - reading skills. In contemplating current and future efforts in organ transplants and the development of artificial devices. One may accept Shakespeare's thought from The Tempest that 'what's past is prologue". or perhaps one should recall Edmund Burke's statement, "To complain of the age we live in, to murmur at present possessors of power, to lament the past, to conceive extravagant hopes of the future, are the common dispositions of the greatest part of mankind" 6.

By probing into the most sensitive part of the human body, For eg the human brain scientists have tried to gain better understanding of its functions. Throughout the Western countries the computer networks encode more and more information about our private lives, and the scientists increase their study of the human mind through drug and brain -- wave research. Little by little, privacy is being destroyed we tacitly accept the sophisticated spying made possible by electronic circuitry microminiaturization; and drugs. It is said that if this trend continues, civil liberties will soon be replaced by formalistic rituals, and we shall have become socially tolerant of secret surveillance and spying. Just as we have learned to tolerate air pollution, foul water, ubiquitous noise, garbage in the streets, and crowded confusion in our cities, so we shall learn to tolerate sonic booms and loss of privacy. The greatest threat to human life is, paradoxically, that human beings are so immensely adaptable. Unless we take a stand very soon, we shall come to tolerate surroundings and ways of life that are incompatible with those qualities we now identify with "Humanness".

7

Scientific and Technological innovation has become an accepted noun of

western society today. The citizens adjust very quickly to heart transplants, manned orbital flights, computerized fingerprint tracing and Laser surgery. By the same token he is fascinated but not over whelmed by forecasts that, in the early 21st century, he will enjoy three -- dimensional movies and television, take advantage of weather manipulation, and perhaps be able to choose the sex of unborn babies. Another marvelous off shoot of Science is plastic surgery. What is plastic surgery? Plastic surgery means any surgery that changes the shape of the body or to remove, tissues from one part of the body to be used at another part. It developed during the first and second world wars. Hindu physician Sushruta, used skin grafts as early as 800 BC to reconstruct a damaged nose. Also known as cosmetic surgery it is used to give a better appearance to the face of a patient ie. by straightening or reducing the size of nose, sagging tissues under the chin, cheeks and eyelids. In case of server burns skin from other parts of the body is grafted immediately or at later date to improve the scars that may develop. Another off shoot of the advancement in science is genetic engineering. What is genetic engineering? Many prospective parents seek professional help in determining the chances of their offspring being born with a genetic disorder. This is particularly so with parents who have a family history of genetic disorders. Sickle -- cell anemia and Tay --- sachs disease are examples of the types of disorders, Where genetic counselling is advised. Scientists are hopefully looking forward to the day when genetic disorders can be diagnosed and treated. The branch of medicine aiming at this objective is known as genetic engineering. In near future scientists may perfect means of removing defective genes from chromosomes and substituting normal genes in their place.

The fact that scientific research generates wealth and power is undeniable. In 1783, while Benjamin Franklin was ambassador at the court of

France, he had occasion to witness in Paris some of the first balloon ascents. To skeptics who asked what use a balloon might ever have, Franklin is said to have answered with the question: "What is the use of a newborn baby".⁸ A similar story is told to Michael Faraday, the British physicist and chemist early in the 19th shortly after he had discovered the electromagnetic induction, Faraday was host to an important political personage in his London laboratory at the Royal Institution. He demonstrated the new phenomenon to his visitor, who was rather unimpressed and inquired: "what is the good of this discovery?" To which Faraday replied: "Someday, sir, you will collect taxes from it". Whether these stories are authentic is of limited historical interest. What is important is that they help us understand the social implications of scientific and Technological research. Franklin's remark "what good is a newborn baby"? -- symbolizes the faith that any new fact holds promises for future developments. (not all of which can be predicted, of course, because so much depends on future circumstance's). Faraday's statement that taxes would someday be collected from a new laboratory technique represents a more realistic belief that almost any discovery will eventually be converted into some process or product that society will be eager to use. Most enlightened persons now take for granted that scientific research generates wealth and power, and that its most exciting fruits are often unexpected. This, however had not yet been proven by experience. In Franklin's time or even in Faraday's theoretical science began to influence practical life barely 100 years ago.

Scientific advance has led to various dilemma's one among them is the Doctors dilemma.⁹ Whether he wants to or not, the doctor is being forced to accept a large share of the responsibility for the social judgements surrounding such basic factors as who shall survive, whose life will be spared by using an artificial organ or by doing a transplantation, current estimates indicate that

about 90,000 persons a year die of kidney disease. Each kidney transplant operation costs approximately \$20,000. Assuming each person could afford it, who among the 90,000 should be selected to receive the relatively few kidney's that are available for transplant purpose ?

Philosophical and ethical questions are especially pointed in heart transplant cases. Is the donor actually dead if his heart can be resuscitated in another individual ? Should a heart transplant be performed on a particular patient ? The donor's heart must be removed as irrevocably as in an Aztec ritual. If the transplant should fail the graft not function the surgeons would have killed the donor no matter how altruistic their motives. It is, indeed, a very final step. And what of the definition of death itself? The use of organs from cadavers depends upon the fact that each tissue dies at a different rate. If we assume that death occurs at the moment the brain stops functioning, many organs are available in an intact state for transplantation. If however, we say that death occurs when spontaneous heart action has ceased, when reflexes are absent, and when there is no respiration, then some organs have also died or have been irreparably damaged. To avoid this, there is much pressure toward a new definition of death dependent upon brain, not heart, activity. Scientists/physicists now a days make use of mechanical spares. There are a number of artificial devices or prosthesis, in current use that act as substitutes, struts, supports, or conduits in the body. All of these have greatly extended the fields of surgery in which they are applied. Examples are heart valves, blood vessel grafts, artificial joints, and cardiac pacemakers. By broadest definition these are artificial internal organs. Their proponents recognize the liabilities and even some dangers in their use. Artificial heart valves, for example, permit replacement of valves diseased by arteriosclerosis and

example, permit replacement of valves diseased by arteriosclerosis and rheumatic fever, but formation of blood clots on prosthetic surfaces has been a problem and infection around the valve is nearly always fatal.

Today science continues to produce pesticides and new industrial processes that threaten to alter profoundly the balance of nature. Will the law eventually be forced to call a halt to such developments, on the ground that man has an inalienable right to an uncontaminated environment? Already this right has been pleaded -- and lost in the courts of New York state, but the law can still assert it, if necessary, and science will be obliged to confirm. From the above examples, it seems clear that the future man progresses towards mastering his environment, the more important law becomes to him, because law is one of civilized humanity's tools for applying reason to its affairs. Primitives manage quite well with force and cunning. Advanced cultures can't tolerate their Technology only within the framework of those rules of reason that are law. As science produces new marvels by which man can alter his environment, his physique and his personality at will, only law can keep their use within bounds. Science may give us ultimate power; law will have to determine whether it leads us to utopia or gethsemane. At present, only about 50 of the earth's 135 nations have reached some stage of legal development. The rest have edicts imposed arbitrarily by tribal chiefs or dictators or the dead hand of tradition. These may be miscalled "Law", and our system retains remnants of them, but the law we are talking about is a less precise, more meaningful arrangement for settling conflicts between men's desires. It is an ever changing, never final, seldom even consistent body of reason created by fallible human beings to permit them to carry out their finite operations in a worldfull of fresh surprises. In the long run, legal rules to govern the changes in our lives brought about by advances in technology will be determined by the

people, not the lawyers. Either by direct demand for what they want, or by default through apathy, ignorance, or the simple failure to demand significant changes, the people will determine the direction of a government. The impact of science upon law, and viceversa, is felt in the whole span of human existence, from conception to resurrection.¹⁰ At the earlier stage it is most manifest in problems that arise through application to humans of the ancient art of the animal breeders, artificial insemination. the problems are expected to multiply as science seeks to use the method to "improve" or preserve mankind. Only a few of the 50,000 -- 60,000 "Test tube babies" estimated to have been born in the united states have as yet come into conflict with the law, and then usually in the course of a marital dispute. So our rules of reason are not yet established. Is the act itself Legal ? Is the child Legitimate? Can it inherit equally with offspring who were conceived in a more orthodox manner? Does the husband have all the privileges and obligations of a biological father? Is the donor responsible for the child's support? These questions, which scientific advances have posed, must now be answered by society. The field remains what some knowledgeable lawyers regard as a no -- man's-- land, full of booby traps for those who enter it. Consider the litigants of just two big cities, Chicago and Newyork, in 1945 one Chicago judge ruled that donar insemination could not possibly constitute adultery. In 1954, in an almost identical case, another judge held that the baby was illegitimate because donor insemination does constitute adultery. A higher court, upholding the decree, pointed out that the infant was not bound by this judgement of bastardy because he had not been represented at the trial. A Newyork judge in 1948 found that consent to artificial insemination constituted an adoption by the impregnated woman's husband; therefore, the child was Legitimate. This was contradicted in 1963 by another Newyork judge, who decided that the

husband's consent was as irrelevant to the baby's Legitimacy as if he had condoned his wife's taking a lover. Uniformity in this matter probably will have to wait until enough cases come up to arouse the public. The presumption of Legitimacy is one of the strongest presumptions in law, and it would not take much to carry it over into the no -- man's -- Land of artificial insemination. A present trend toward regulations preventing the stigma of bastardy from being recorded on birth certificates indicates that our states. Will one day legislate that just being born legitimized anyone.

Law will not find the solution that easy in the event artificial insemination is ever applied eugenically. The possibility of freezing sperm for later use perhaps decades or more. Later -- presents tricky legal, and personal, questions. Does a deposit in the sperm bank become part of a man's estate, which his heirs can later dispose of as they would his bank account ? What authority will determine whether the proposed act of creation would, in fact, produce desirable results ? The dangers of this were recognized by George Bernard Shaw, So the story goes, when Isadora Duncan, the dancer, suggested they have a child so the world could be blessed with a combination of her beauty and his genius. "Ah, but what if he had my looks and your brains?" Shaw demurred. One wonders how many women would experiment if the frozen sperm of a Leonardo da Vinci say, or a William Shakespeare, or more, likely, a famous athletic or movie star, were available ? Fears that the state might take over the licensing of reproduction in the interest of "improving" mankind or breeding for docility seem unfounded, at least in the Western world. Law, we suggest, will go no further than to set reasonable guidelines, to restrict the use of sperm to a donor's stated wishes, to prevent fraud, and to require medical examination of those who make deposits to the sperm bank and those who would draw from it. Perhaps because we are optimists, we

believe the law will progress in this area with the welfare of children as its primary concern courts will no longer subordinate the interests of the offspring to those of their quarreling parents, which is the common practice. Today perhaps the law may even call upon science, which by then may have learned enough about human conduct to suggest where true justice lies.

Not unrelated to the problems of artificial insemination and frozen sperms are those created by the use of the body or its parts at the other end of the lifespan. An organ such as kidney, which can be spared during life raises no special legal questions, but transplants at the time of death promise complications. Heart transplants force the law to reexamine its definitions of death. In the past, death has been what the doctor said it was but in their eagerness to give a patient a "new" heart, some physicians propose grounds that law may not accept. A Boston medical group suggested that when the brain shows no electrical activity for a specified period, say 24 hrs, its owner may be considered dead, though he is still breathing and his heart continues to beat. Should that heart be available for transplant, even assuming the family consents ? The law may have to answer this questions. If science could provide some clear, unequivocal facts about death, then perhaps the law could change its mind. Such facts can be established, however, only on the basis of a companion definition of life. Is it merely survival ? And as more is learned about such things as the role of DNA, will we discover a need to discriminate between different kinds of human life ? These questions will bring us face to face with such problems as : (1) If new medical techniques can prolong a healthy life far beyond the present span, who will be selected to remain alive?¹¹ Society, through law, probably will not leave it to the workings of the market place or the caprice of physicians. At the very least, it will try to prevent a black market in hearts and lungs. But if science manages to

transplant a human brain, the law will be in serious trouble. Which individual will be considered legally "alive" -- The one into whose functioning body the new brain has been deposited, or the one whose brain with all its memories has merely moved to a new home? (2) If the right to live is expanded what of the right to die ? At present the law recognizes no such right, neither for those newborn. Who will never have a functioning brain, nor for the aged who have lost it. Euthanasia and suicide are crimes now, but perhaps science will one day be able to prove that in an overcrowded world both acts are rational -- whereupon the law will concede the right to die (3) If as Robert Simsheimer of the California Institute of Technology predicts, "Man will have the power to alter, specially and consciously, his very genes" so that "intelligence can be applied to evolution", whose intelligence will be applied, and toward what evolutionary goal shall man strive? The people, through law, will have to make that god -- like decision.

Scientific activity can be said to be a combination of Eros (constructive principle) and thanatos (destructive principle) in Freudian terminology. The reductionists character of science becomes evident when it uses its method, which originated as a way of explaining the physical world exclusively, to account for the phenomena of man itself. Although social sciences, which so far as their basic assumptions are concerned are widely regarded today as only an extension of natural sciences, philosophers of science are seen to face a challenge when they encounter the mysterious and ineffable meaning; -- giving activity of human consciousness.¹² Man's intentionality, his freedom to direct his inner being, his urge to seek the transempirical foundation of whatever is given in experience, make any attempt of converting social phenomena into phenomena amenable to natural sciences impossible.

During 1967, two editorials appeared in the Newyork press, one by James Reston in the Newyork times, another unsigned in the wall street journal. Both writers were concerned with an attitude of mind that they called "The new pessimism" : The widespread feeling that our urbanized and industrialized socities are experiencing problems for which there seems to be no solution. This disenchanting mood originates in part from the fact that health and happiness are not necessarily synonymous with comfort and prosperity. But the deeper reason for the new pessimism is that most new technologies have unexpectedly created situations that are inimical to human welfare. Power blackouts, environmental pollution, soaring noise levels, the progressive erosion of public services, social regimentation, loss of privacy, let alone the threat of nuclear warfare, are but a few among the many manifestations within the technological order that are threatening the quality of human existence. Because of the lengthening roster of environmental problems, we are approaching a crises in our own times that could destroy the planet earth as a place suitable for human life.¹³ Unless we stop and reverse present trends, the least that can happen is a progressive deterioration of the values and amenities that have given such richness and variety to western cultures

Science enables technology to do almost anything, but there is a painful discrepancy between what man aims for and what he gets. He sprays pesticides to get rid of mosquitoes and weeds, but he thereby kills birds, fishes and flowering trees. He drives long distances to recapture the purity of nature, but he poisons the air, or is even killed along the way. He build's machines to escape from physical work but in so doing he also becomes their slave. Each week our magazines and newspapers bear witness to the public's Somber anticipation that the Legend of this Sorcerer's apprentice may soon be converted from a literary symbol into a terrifying reality.

All living things are interdependent and from such a complex and highly integrated web of relationships that what happens to one organism is reflected in many others. DDT and other insecticides sprayed at low concentrations accumulate in plants and in the sea plankton. As a result, they become further concentrated in the fish that feed on plankton, and ultimately reach high concentrations in the birds that eat insects or that prey on fish. Certain insecticides, DDT in particular, become progressively concentrated several hundred fold in eagles and falcons, for eg, which are thus poisoned and become victims indirectly of our clumsy attempt to control insect life. Scientific interventions that appear at first sight to act only on plants and animals may eventually affect human life as well, often in desastrous ways. When nuclear weapons were exploded on isolated pacific islands, they destroyed the local plant and animal life, as was expected; but other, unexpected effects soon came to light. As the fallout spread over much of the earth, it reached the region around the Artic circle, where its radioactive material accumulated in lichens. The caribou that fed chiefly on these plants were in turn contaminated but the lapps and eskimos who ate the caribou were the ones most seriously affected by the far -- off south pacific blats. Nuclear technologies will soon provide mankind with an almost endless source of energy. Experience has shown, however that any form of energy, improperly used, contributes to the devastation of the environment and makes it increasingly unfit for man. Ecological sciences must be developed to provide the information essential for making nuclear technologies an asset to human life, rather than a threat to environmental, health and to the quality of human life. Walter Orr Roberts, Director of the national center of Atmospheric Research wrote in a similar vein nearly every advance of science has two faces. One smiles on us and lifts the aspirations of man; the other scowls

sternly on all future hopes. For the miracle of the modern automobile there is the raising scourge of carbon air pollution that threatens to choke our "Bosny washes" (the giant Boston --- N.Y. Washington megalopolis). The advance of urbanism brings us befouled rivers, vanishing privacy and lives full of strain and tension. For all the miracles that atomic energy has wrought in medicine, industry and power generation, there hangs over us the specter of nuclear war.....we will likely know when the first intercontinental missile of world war III comes, should that happen, in a routine computerized check, on a millisecond time scale, of the inventory of space debris ; and the decision to retaliate, to enter total war, will probably be made on computer based advice.¹⁴

The same sense of Alarm can be read in a statement published recently by Harvey Brooks, dean of engineering applied physics at Harvard university :- Scientists are becoming increasingly aware that decisions about science and technology must be made in the light of their possible second --- order consequences -- even when these cannot be anticipated; since the disadvantageous consequences of introducing a new technology can at times outweigh the primary expected benefits.¹⁵ These forceful statements, far from being antiscientific, represents the scientific attitude at its best, namely, the willingness to look at facts as they are the best reason for optimism is that an objective evaluation of the effects of science in the modern world will make it possible to define the areas of danger and to develop a scientific philosophy compatible with human values. Evaluated in this light, the break throughs predicted by the Hudson Institute are trivial because they do not suggest any solution to our present problems. The really needed scientific developments are the ones that will enable mankind to use technology for worthwhile ends, instead of becoming its victim. Environmental degradation in all its forms is

everybody's doing and everybody's business ; its control requires mobilization of public concern and active participation of the citizenry control will in many cases conflict with individual interests, but this should not serve as an excuse for failure to act. The uninitiated, water pollution means simply that raw sewage and industrial effluents have been discharged into water supplies. But scientifically, the problem is much more complex than that; after all, wastes always contaminated rivers and lakes. Under natural conditions the bacteria of decay, destroy organic materials and convert them into innocuous substances. This self-purification is essential for the maintenance of safe water supplies; it requires only the proper kinds of bacteria and large amounts of oxygen so that they may perform their natural functions. If the amount of organic wastes and toxic substances discharged into streams and lakes is too large, however, the oxygen content of water falls. When that happens, the needed bacteria die, the processes of self-purification collapses, and the water becomes foul. As a result of rapid accumulation of wastes from deficient sewage systems and industrial effluents, many beautiful water ways have been converted within a few decades into nauseous sewers. Lakes Erie, which was once a clear and productive inland sea, is now a rank, muddy sink. Lake Michigan faces the same fate. All over the world industrial wastes are killing off game fish, and sewers are rendering beaches unusable. When self purification breaks down water becomes almost undrinkable, even after chlorination, because it is loaded with potentially toxic chemical substances. Even the dirtiest water can be made clear by filtration. And most (but not all) of the disease -- producing germs it contains can be held in check by chlorination. But there are no practical techniques for removing from it certain minerals and synthetic chemicals. Even though it may be clear and free of bacteria, potable water is becoming increasingly contaminated with an immense variety of substances

that are not recognized (because of their low concentrations) as dangerous. Through continuous usage, however, these same substances may nevertheless exert delayed toxic effects.

Water is only one of the vehicles that bring chemical pollutants into everyday life. The U.S. Food and Drug Administration estimates that Americans are exposed to more than 500,000 substances, usually over very long periods of time less than 10% of these substances have been cataloged in a way that would provide useful information concerning their effects on our environment slowly developing health hazards are not publicized because they lack the drama that would give them new value. Yet the evidence is now overwhelming that even very low concentrations of environmental pollutants can, in time, have disastrous effects through a number of indirect mechanisms.

Air pollution is another threat on everybody's mind. But while it is endlessly discussed by lectures and in newspapers, this does not mean that we have much knowledge of its effects or even of its components. Everyone can see that the air of our cities is increasingly loaded with various kinds of soot and other particulate matter, but there is much more than that to air pollution. Automobile tires grind into the pavement and are slowly pulverized into colloidal material that penetrates deep into the lung, and development of efficient braking systems for motorcars has led to the release into air of material that contains toxic asbestos particles city air contains an immense variety of other ill -- defined matter, perhaps much more dangerous than those pollutants that have been chemically identified.

It is obvious that air pollutants soil shirts, penetrate closed windows, irritate the mucous membranes, kill plants, and damage buildings. But oddly enough, it is extremely difficult to prove scientifically that air pollution is really a serious threat to health. An eminent sanitary engineer recently stated that,

for all we know, air pollution is more an aesthetic affliction than a health hazard. Why is it so difficult to demonstrate the danger of air pollutants to health? Because their effects develop slowly and often require decades before they can be diagnosed. Persons may become so used to smog that their behaviour and health seem unaffected by contaminated air. However, the respiratory tract registers the insult of the air pollutants, even when the affected person is not aware of them. After periods of time that differ from one person to another, and that may extend to two or more decades, the cumulative effects of irritation commonly result in chronic bronchitis, perhaps even cancer. Since such diseases do not become manifest until a long time after initial exposure, it is difficult to relate the effect to its cause. But it is well established that chronic pulmonary disease now constitutes the largest single medical problem in the industrialized and highly polluted areas of northern Europe and is becoming increasingly frequent in the industrial cities of the U.S. Because the incidence of the disease increases with the time of exposure and the concentration of pollutants, we may expect, infact, that the worst effects of air pollution will not be experienced until the end of this century.

In view of the fact that the new generations are now exposed to massive doses of all pollutants from the time of birth, it is not unlikely that they will suffer the effects of pollution much more than we have. We are engaging in a kind of chemical warfare against ourselves, and especially against our children.

Noise is another much neglected example of the nefarious effects of environmental pollution, since steady, intense noise inflicts irreversible damage on the nervous system of the ear. American courts recognize its effect as an "occupational disease" an award compensation to workers whose hearing has been affected by exposure during work. In many cases however, the level of

city noise equals, and may exceed, that considered on the borderline of safety in industrial work. Recent laboratory investigations indicate that supposedly tolerable noise levels can cause ear damage in animals, and that sounds not sufficiently loud to awaken sleeping persons nevertheless affected their brain waves. Most disturbing in this regard is the recent discovery that the heart rate of the fetus can be accelerated by noises to which the mother appears to have become tolerant. One shudders at the thought of what the supersonic boom will do to the forthcoming generations if it ever becomes a part of daily life. There is as yet no way to prevent the boom at supersonic speeds, nor to decrease it significantly by high altitude flying. We may learn to tolerate the boom, if acceptance of an inevitable harm can be considered as tolerance, but the chances are very great that this acceptance will be achieved at the cost of physiological and mental damage. The sonic "boom may indeed turn out to be the senic doom.¹⁶ Almost everyone can become adjusted to high noise levels, but such an adjustment is usually achieved through loss in the finer shades of hearing and, therefore, one's ability to enjoy music. Clearly the criteria of adjustment to noise should involve more than the ability of human beings to function as components of the economic machine: the criteria should also include the aesthetic qualities of life.

Increasingly we are developing tolerance to ways of life that appeared intolerable two generations ago. Hidden cameras and eaves dropping mechanisms for ability tests, the secret surveillance, computers for recording and disseminating personal data, personality tests, the subliminal suggestion -- all these techniques for the invasion of privacy are gradually achieving social acceptance in government operations, bussiness practices, and private relationship's. This intrusion into one's personal life seems incompatible with

our traditional values of privacy and human dignity, and yet it is increasingly accepted because of certain social needs and apparently beneficial uses.

Western society looks at life in a radically different way from such traditional societies. Perhaps its main characteristic is a willingness to take a critical look at what exists and to make changes. It is an attitude that is applied not simply to economic organization but to everything : to the political and social structure of society and to man's own intimate being. Western man has gone so far as to refashion his environment, the organization of his society, and even his physical make up and psychological nature through the use of surgical, chemical, and psychological techniques. In the last few centuries, these attributes of western culture -- pragmatic, flexible, secular, humanistic -- have become more and more deeply in-grained. Occasionally, contrary tendencies have made themselves felt -- tendencies having to do with certain aspects of the reformation and counter --- Reformation, the puritan era in England and the later victorian era, as well as 20th century Stalinist communism, Nazism and Fascism. Nevertheless, the basic thrust toward reexamination and rational change has persisted, until now this western approach to life has come to influence almost the entire world. The transition from feudal to bourgeois society meant the fading of the idea of a divinely ordained social order. Government relations came to be regarded as resting on some form of "social contract" between the people and those holding the reins of power. Human relations underwent an analogous change. Person ----- to -- person commitments were no longer considered to have been made in heaven or fixed by tradition. They became a matter of convenience, subject to reevaluation and alteration.

From this cultural pattern and the institutionalization of change, has come a systematic accumulation of scientific and Technical knowledge. The

process is most commonly referred to -- by the modern corporation, the pentagon weapons planners, the university scientists -- as research and development. It is a built -- in, continuing process for ensuring that changes do come about, and at an increasing tempo.

The industrial boom, the accelerating modernization bring increasing affluence and, with it, increasing leisure, which can be brought with affluence. Affluence also makes possible the financing of more and more literacy, which in turn is necessary for feeding the research and development machine'. Populations expand as better hygiene, medicine, and food supplies lower infant mortality. Urbanization accelerates as the population conveys on center where the work of industrial society can be carried out. Agriculture, more and more scientific and mechanized, is left to a decreasing proportion of the citizenry. As the process becomes more advanced, towns turn into cities, and cities begin to run together in a new kind of mass : The megalopolis. The technical -- economic make up of 21st century society will have a marked effect on the cultural and aesthetic life of the community.

A number of respected men of learning have suggested that the erosion of the old values might cause massive socio -- psychological problems.¹⁷ The economists John Maynard Keynes predicted in 1930 that, as a result of the capacity for cumulative economic growth, the "Economic problem" would be "Solved" in perhaps another hundred years. He viewed the prospect with some "dread". The struggle for subsistence has always been man's primary occupation. If it became unnecessary man would be deprived of his traditional purpose. Keynes questioned whether the ordinary man could make the revolutionary adjustments of habits and instincts that would be called for. Still the economist discerned great opportunities : I see us free to return to some of the most sure and certain principles of religion and traditional virtue:

that avarice is a vice ; the exaction of usury is a misdemeanor; the love of money is detestable; and those walk most truly in the paths of virtue and same wisdom who take least thought for the morrow. It is said that we shall once more value ends above means; prefer the good to the useful. We shall honor those who teach us how to pluck the hour and the day, the delightful people, who are capable of taking direct enjoyment in things.

Parents will not be so strongly motivated (this already is happening) to imbue their children with respect for diligence, punctuality, self -- denial, or even patience or they will try in vain. Rapid technological and cultural change itself creates a strain between generations. Most families will be like those of the American immigrants whose children rejected the values of their parents and looked to their peers and to the external society for their standards. The parents found themselves turning to their adolescent children for guidance because the children were closer to the world around them. A peculiarly American style is likely to characterize the decline of traditional values in the United States. ¹⁸ For the most part, the list of 100 technical innovations is a list of physical inventions or improvements, having to do with materials, products, processes, power, and the like. The developments in service that are listed -- new educational techniques, more reliable and longer -- range weather forecasting -- will most probably evolve from material developments, such as new kinds of computers. Some of the innovations are obviously ominous -- for example, new and possible pervasive techniques for surveillance, monitoring, and control of individuals and organizations. (Even so, we can conceive of an over crowded world in which such techniques would be essential. In any event, we can expect more or less successful counter techniques to be devised). Many of the innovations may have unexpected bad effects, or at least equivocal effects for instance, worldwide use of high altitude cameras for

mapping and prospecting could turn out to be harmful in indirect ways --- contaminating the upper atmosphere or increasing spying activities. Another likely occurrence -- though not, strictly speaking, a technological innovation -- is the appearance of new languages this may involve the development of one or more multinational languages, or such rapid change within an existing language that it will, at the very least, be considered to have entered a new phase or there may be a greater differentiation, in which small groups of individuals devise coded languages for the purpose of avoiding monitoring, or to set themselves apart from the rest of society.

It is clear that the middle of the 20th century marked the beginning of a new era, in which mass destruction on an unprecedented scale became possible. It was common in the mind -- and late 1950's to talk glibly of "overkill" and of total world destruction, though in fact no one had made calculations demonstrating the likelihood of such an event with the weapons systems then available. But weapons technology continues to "progress", and it is possible that the "ultimate" in weaponry, the so-called Doomsday machine that can destroy all human life, will become not only technologically feasible but inexpensive.

One of the most important U.S. nuclear programs, atoms for peace, makes cheap power widely available. But it also makes fissile materials available to many nations that could learn to produce nuclear weapons with them rather easily. Other peaceful technologies could also bestow on their possessors the capability for making nuclear weapons, or chemical or biological agents of mass destruction. The biological and chemical sciences are progressing swiftly one result is that new weapons are invented even when they are not the objects of research. As with nuclear weapons, there is much apocalyptic and exaggerated language about biological and chemical weapons.

Even though they have been "improved" tenfold since world war I, when they were last used on a large scale, their capabilities are often overestimated, at least as far as normal military objectives are concerned.

Research in molecular biology and genetics could produce a technology that would be very dangerous in the hands of an unrestrained government. If it becomes possible to alter the genetic inheritance of human beings, some governments might attempt to reshape part or most of their populations in ways considered undesirable by the rest of mankind. They might take a leaf from Aldous Huxley's Brave new world and breed legions of soldiers who have great physical prowess and dull, unquestioning minds. There are many possible new Techniques for insurgency Crime, or ordinary violence, some extraordinarily destructive weapons might get into the hands of relatively small groups and be used for insurgent or criminal operations or even for "pointless" destruction.

We may also expect new techniques for counter insurgency and 'counter criminality' These in turn could cause serious problems of excessive or unjustly imposed order. Thus, new technology may shift the balance between "order" and "disorder" either way, or in both ways simultaneously. Since undemocratic, illegitimate, or unpopular regime may have the greatest difficulties with sedition or insurgency, new technology that further strengthens the hand of those in power may be, on the whole undesirable.

Developments in area's like modern Technology, weapons etc. raise very serious issues. Radio active debris from peaceful nuclear installations, waste heat, insecticides, fertilizers and food additives are nuisances today, rather than matters of life and death. But they might grow serious enough to threaten individual health or survival comfort, and happiness. There are nuclear power plants and even commercial steam plants that give off enough heat to

raise the local temperature of a river such as the Colorado by several degrees. As the number and capacity of power plants increase, the resultant heating of rivers could become an overriding problem. Similarly, in large urban areas the temperature is almost constantly five, ten or more degrees higher than in the corresponding rural areas, largely because of heat given off in man -- generated activity. To cite one example the air conditioning for an apartment house gives off much more heat to the outside world than is removed from inside the house -- a phenomenon caused by inefficiencies in the system. As urban life becomes more affluent, as metropolitan areas become more densely populated and more dependent on energy -- consuming devices, this effect will be intensified. There are other potentially serious problems that are not widely publicized. For instance, some experts believe that the burning of gasoline by high --- altitude jets may trigger odd and possibly dangerous reactions in the upper atmosphere.

An issue that has probably received excessive publicity, on the other hand, is the use of chemicals and other artificial additives in food production. It must be kept in mind that while there may have been too much apprehension in the past, conditions could easily worsen -- and probably would, were it not for such campaigns of "exaggeration". A related problem is the sacrifice of taste and other aesthetic qualities of food to economic efficiency. This has already occurred to some degree in the United States. The contamination or degradation of the environment does not necessarily have to be gradual or local. In a nuclear war (or even nuclear testing), it could be both spectacular and multinational, or perhaps affect the entire planet. Bacteriological and chemical substances are not only dangerous as potential weapons; widespread damage might also occur as the result of accidentally produced but uncontrollable epidemics.

Several much -- publicized projects, most of them government sponsored, have been subjects of controversy in recent years because of their real or alleged degrading effects. The "artificial moon" concept of the U.S. Defense Department projectable, for instance, involved the orbiting of a giant reflector that would catch the sun's rays and bounce them back to a predetermined point on earth (in this case the jungles of vietnram at night), thereby transforming night into day. Astronomers registered loud objections to the project, claiming that it would hamper their observations after studying the proposal, a committee of the space science Board of the National Academy of sciences reported that it saw "no scientific value in a setellite reflector system that is in any way commensurate with the costs and nuisance to science of such a system". Beyond the effects on science itself, the committee discussed the possible adverse effects that an artificially prolonged day might have on those planets and animals whose life cycles are regulated by the natural passing of day into night. On the strength of these and possibly other objectives, the government decided not to pursure the project for the moment. Another example of possible degradation of environment is the sonic boom that would be produced by supersonic jet transports. Some proponents of the SST expect that the difficulty will be alleviated by more efficient aircraft design and or special operating procedures. But this remains an open question and most experts believe the "boom" constitutes a very serious problem. It has been suggested that supersonic transportation may have to be restricted to routes over water or other uninhabited areas and that, even in that case, shock waves might be excessively disturbing to ships at sea or to other aircraft.

There is a growing awareness that new developments in technology may raise serious internal political and social difficulties. The power failure of Nov, 9, 1965, when the incorrect setting of a relay at an ontario power station

blacked out most of the north eastern United states, spot lighted the problems of highly centralized or integrated systems that may be more vulnerable or unreliable than had been realized. Potentially, an even more serious problem is posed by centralized "command and control" or other administrative systems that tend to filter the information that goes to the top, thereby giving decision makers a very incomplete and possibly dangerous picture of reality. In some cases this systems may completely supplant other sources of information. There are, of course, enormous advantages in modern management techniques. Yet they may also raise serious hazard by isolating decision makers from direct contact with the actual situation.

Highly centralized facilities are vulnerable to exploitation by persons who want to cause trouble. Furthermore, an overly centralized and automated information network creates a great psychological distance between leaders and followers. This kind of alienation could become widespread in a society dominated by large scale, impersonal, automated procedures. It seems to be one of the sources of the student rebellion of the 1960's. At large universities, where students feel -- justifiably are not that they are mere IBM cards in the eyes of the administration. Another issue raised by a number of observers is that, with an increasingly complex world changing so rapidly and dangerously, and with the need for anticipating problems so enormous, we may be tempted to sacrifice (or may no longer be able to afford) democratic processes. It is important to keep in mind that tyrants have frequently come to power as the result of an overwhelming desire on the part of the people for firm leadership -- leadership that could not be supplied under an existing democratic system. Even if caesarism is avoided, more and more decisions may be made by relatively narrow -- minded technocrats, who -- intelligent, responsible and well trained though they may be --- still may have what Thorstein Veblen called a

"trained incapacity" to consider problems outside their special spheres of interest. A critically important future development will be the capacity of world wide communications to show less developed populations what life is like in a modernized society. On the one hand, this will drive home the point that poverty and disease are not inevitable, and should stimulate the desire for modernization. On the other hand, the example of the hippies and dropouts, or a general relaxation of the puritan ethic in developed nations, deny the allure of modernization in disadvantaged regions. This ambivalence may complicate the job of lifting these Economy, since what will be needed are responsible, intelligent local entrepreneurs and dedicated administrators. Projects seem to be increasing that the traditional path to economic progress, the exploitation of cheap labor, may become much less usable. The reason : Modern technology will tend to make even the cheapest unskilled labor too expensive. As a result of science and technology the availability of cheap and rapid transportation is increasing. So the "brain drain" --- The movement of more skilled and mobile persons to the developed nations -- will be accelerated.

The development of synthetic food could have an upsetting effect in several ways. Removal of the danger of major famine may almost rule out serious birth -- control programs in some nations. At the same time, the problems of education and economic development may remain insoluble until population growth can be stabilized. Furthermore, a greatly increased supply of manpower could be politically, socially, and economically disastrous if there is no constructive way to use it. The same dilemma arises in a slightly different form when education becomes cheap and an "overeducated" group develops (as in India today) that cannot be absorbed into the economy because there are not enough jobs requiring a high degree of education and skill. Another example of the potential of new technologies is that it is increasingly likely that

the oceans -- possibly even the moon, planets, and outer space --- may become areas of competing or even incompatible economic and military exploitation. They could then become the focus of new international tensions or crises. The problems of choosing the sex of children and of genetic engineering generally are discussed in the year 2000. Another problem along this line is that of supercosmetology. People may be able to change their physical appearance even more drastically than they can today. If this is done to excess, perhaps stimulated faddism, it could lead to loss of identity, depersonalization of the individual, and a sense of impermanence in even the closest human relationships.

Ever since the emergence of science in Europe and the Industrial Revolution, a hope had been nurtured, that the development of science and technology would solve the problem of poverty and remove inequalities. Yet with each stage of development, despite the vast resources, created through the development of science and technological capacities, the goal appears to recede. The inequalities have, in fact, grown, between different sections of society and between different societies. Why has this been so? Various explanations have been suggested such as the factor of inequality being inherent in contemporary science and technology, the misuse of science by the existing society or the delinking of science and technology from religion and morality, which is responsible for the existing situation.

The above mentioned expressions of worry about the present trends of Technological civilization are assumed by the uninformed to represent an anti-scientific attitude. This assumption is absolutely wrong and even dangerous. It corresponds to the euphoric, Pollyanna-like view of scientific Technology that prevailed during the 19th C, the same view that is handicapping is now in our efforts to adopt the scientific enterprise to the problems of 20th C civilization.

Fortunately, many prestigious scientists and technologists -- men and women who can hardly be accused of being anti scientific :- have recently issued explicit warnings that man -- made environmental threats are spoiling the quality of human life and might in the end bring about its destruction. One example which illustrates the farsighted and responsible attitude of some leaders of the scientific community in this regard is as follows :- In 1967, Elmer Engstrom, the president of the Radio corporation of America, published in American scientist his speech of acceptance of the Proctor Prize awarded by the scientific Research society of America.

The following paragraph expresses the mood of his message.:

The introduction of new technology without regarded to all the possible effects can amount to setting a time bomb that will explode in the face of society anywhere from a month to a generation in the future.¹⁹

Many of the issues we have been discussing may seem bizarre, uncomfortably divorced from what we can accept as potential reality. Yet the possibilities for unaccustomed developments have by no means been exhausted. There has been considerable speculation that the traditional nation -- State, unable to cope with rapid changes will find it necessary to limit innovation, even at the risk of becoming authoritarian. The world may not tolerate unchecked population growth in less developed areas that depend on international charity for support. Other "justifications" may be found for interference in the internal affairs of nations -- by other nations or by an international system. For example if a nation started to build a "Doomsday Machine," there would surely be interference from outside. Worldwide changes in environment, caused by man's activities, are already under way. It is impossible to say whether or not we are on the road to disaster, or at what rate. The accumulation of carbon dioxide in the atmosphere as a result of the

burning of fossil fuels, the production of smog, and other similar processes should already be causing a "greenhouse effect". Raising the temperature throughout the world. This should result in melting of the popular icecaps, flooding of coastal areas and port cities, and the closing of vast agricultural areas to further farming. Yet the system that maintains the earth's temperature is so little understood that no satisfactory explanation can be given for the fact that these effects do not yet seem to have started. Conceivably we could poison or otherwise alter the earth to the point where it could no longer support life as we know it. It is hoped that such potential disaster would be discernible in time to effect change. But it is often difficult for people to act effectively on large scale, long -- term problems. All too often, these are "everyone's problems" and therefore, for lack of jurisdiction, no one's. Interplanetary contamination is one possible hazard of current space programs, but it seems to have received appropriate recognition, at least at this early stage. In fact, there seems to be far more tender concern for the hygiene of other planets than for that of our own. One wonders whether the unspoken assumption is that, for this planet, it is already too late.

It is clear that western man now has Faustian powers,²⁰ which seem impossible to renounce (in the medieval legend, Faust tried to repent but in vain) what is not certain is which of these poetic insights will prove valid. With these powers bring about the damnation of Western man, or will angels intercede for him? Realistically, the possibility must be faced that man's unremitting faustian striving may ultimately remake both his inner and outer environment to the point where he will be dehumanized or where his life on earth will be altered in some disastrous and irrevocable way. Already awesome choices are before him. We have some power now to alter the weather. Suppose that in the future we can divert a hurricane with this ability will come

the responsibility of deciding where to send it. The choice will have to be made, for we will have foreclosed the option of leaving the decision to nature. There is a widespread irrational response to such problems in which the artifacts of technology themselves become the targets of hostility. Also prevalent is the simplistic view that technology now presents man with an either or choice between immolation and utopia. But evils may not be stark and obvious; they may be subtle, slow acting; uncertain --- and well distributed among all the available options. A series of decisions can be taken separately, for good reasons, and yet produce an ultimate condition that, had it been foreseen, no one would have wanted. Practically all the major changes since the beginning of industrialization have brought unexpected and unwanted consequences. Most obvious has been the "fouling of the nest," the Ecological damage from the accumulation of the waste products of industrial society. In the future, medical developments may ultimately blur the distinction between human and non human entities. Research that began as an expression of the value of the individual human life could easily become a step towards the treatment of men as disposable objects.

One of the great tasks faced by society is to facilitate intellectual preparation for the kinds of social decisions that will be required in the affluent, technologically accelerating, rapidly changing society of the future. Clearly, academic training must provide better understanding of the kinds of Faustian power over nature (including human nature) that may come into human possession, and a better understanding of the issues involved in deciding what should be done with such capabilities. This means developing a capacity to make judgements or to appreciate the judgements of "experts" on such matters as the evaluation of costs and benefits of alternative policies and of various institutional arrangements for the protection of apparently opposed interests. It

means preserving a willingness to exploit new technological opportunities while at the same time providing a new social option : to refrain from the exercise of dangerous options. It means developing a new capacity to regulate choices that may be socially dangerous, while preserving freedom of individual choice. It means learning to deal publicly and explicitly with issues that once were left to the discretion of private individuals or groups while deferring or delegating explicit decisions where this is advantageous. But after all this is said, we must be aware that, in the final analysis, these efforts can never be entirely successful. Almost the only safeguard that then remains is to try to exercise judiciously and selectively our Faustian impulses to over power the environment, to try to control our readiness to use our accumulating power. But if this power must be used let us learn to respect its disastrous potential.

Without any evidence to support his scientific faith, Franklin was bold enough to write :-

It is impossible to imagine the height to which may be carried, in a thousand years, the power of man over matter. We may perhaps learn to deprive large masses of their gravity, and give them absolute levity; for the sake of easy transport. Agriculture may diminish its labor and double its produce; all disease may by sure means be prevented or cured, not expecting even that of old age, and our lives lengthened at pleasure even beyond the antediluvian standard were they to come back to life, Franklin and his contemporaries would be startled to find that it took less than 200 years to make such hopes become reality, at least in the countries of Western civilization. Although we have become somewhat blasé about the marvels of our age, their magnitude can be recaptured by imagining what our existence would be like without them. Medicine has come close to solving many problems of disease that made human life precarious as late as the 19th c,

Nutritional science has determined all the essential food requirements of man, and technology has made it possible to provide them at all seasons in any climate. Almost everyone in the western world can afford to stay warm during the winter and soon will be able to keep cool during the summer. Distances become less a problem with each passing day, and neither lack of time nor of strength need limit any longer our ability to move from one part of the globe to another. The revolutionary advances of the past two centuries warrant the conviction that almost any problem can be solved if it is properly formulated and its solutions diligently pursued. Some students of experimental medicine take it for granted that progress can be made in the control of any disease to which we address ourselves with enough energy. They also are of the opinion that physicists, chemists, and engineers can provide us with almost any kind of earthly good. From penicillin to the control of personality, from supersonic flight to space exploration, the 20th c has been marked by achievements so startling that they dwarf the miracles of the legendary ages past.

Faith in the power of science is now so great, indeed, that several scholarly groups have made it a profession to engage in scientific forecasting of the future for example, scientists at the Hudson Institute, a nonprofit research center at Croton -- Hudson, New York, that makes predictive studies for the government, industrial firms and other private organizations, have published a book describing the scientific, technological, and medical advances that can be expected to shape life by the year 2000 predicts a number of spectacular breakthroughs in the production of nuclear energy, the development of new electronic gadgets and the synthesis of strange chemical products of its 100 specific predictions. Let me list here a few that have a direct bearing on human life :-

Permanent manned satellite and lunar installations; inter -- planetary travel; permanent uninhabited under sea installations or colonies; Artificial moons and other methods of lighting large areas at night; Robot and machines "slaves" for human use; New, more varied, and more reliable drugs for control of fatigue, relaxation, alertness, mood, personality, perceptions and fantasies; Increase in life expectancy, postponement of aging, and limited rejuvenation; Extensive and "Permanent" cosmetological changes (features, perhaps complexion, skin color, even physique); Human hibernation for relatively extensive periods; Programmed dreams; More reliable educational and propaganda techniques for affecting human behavior; public and private. New and possibly pervasive techniques for surveillance, monitoring, and control of individuals and organizations. In addition to these the Hudson institute scientists have also listed a set of developments described as "far out" but still within the realm of possibility by the year 2000 : some of them are :- Establishment of bases on the moon or planets; Increase of human mental capacity by connecting the brain directly to a computer; Lifetime immunization against practically all diseases; life expectancy will be beyond 100 years.

The scientists at the Hudson institute are careful to emphasize that such statements do not represent actual predictions of the future, but are rather statements of what they regard as "falling within the range of scientific probability". Other scientists would doubtless have different views as to what scientific possibilities will be converted into actuality by the year 2000. But all would agree that barring natural catastrophes or Social upheavals, science will soon provide new and powerful techniques for manipulating the external world and man's nature. It is believed that if even a small percentage of the Hudson Institute predictions come true, life in the 21st century should be safe, comfortable, and exhilarating, at least in the prosperous countries of the world.

Yet despite all the modern miracles and the promises of many more to come, there is a growing tendency to place the golden age in the past rather than in the future.

It is acknowledged that any approach to pollution control must naturally take into account a multiplicity of social and economic factors. All forms of pollution whether in the form of smog or noise contamination of food stuffs or waterways, garbage in the street or atomic wastes, constitute the hidden price we may pay for our modern affluent society. No one knows, the total price because it is distributed through out the whole social structure and has not been itemized. The damage to health, to physical and mental vitality, to plant and animal life, to the aesthetic qualities of the environment, to the artistic value of buildings and objects cannot be readily evaluated. But this does not decrease its social importance we shall soon have to face up to the monumental economic cost of finding a place for the wastes created by the mismanagement of our technological society, because these wastes are now on the point of overwhelming us.

The ultimate long -- term objective in environmental control should be to manage society in such a manner that the products of its activities can be recycled so as to become useful again instead of being wasted and added to environmental pollution. an effective and economic policy of recycling will demand much scientific study. It has been demonstrated that some environmental control is being achieved even now by attaching waste and pollution at the source. City garbage is being collected to make fertilizers through a biological process of composting not unlike that which has long been used by farmers and gardeners. Dust from grain elevators is being made into pellets for cattle feed. Fly ash from smoke -- stacks is being collected for making bricks and cement, sulfure from oil refineries and sulfur dioxide from

factory chimneys are being used as raw materials for the manufacture of sulphuric acid. In most cases, admittedly, the cost of the salvaging operation exceeds the value of the recovered material. But in the long run, and in terms of total social accounting, it will certainly be more economical to recover a large proportion of wastes at the source than to clean the air, land, lakes and waterways after the pollutants has been dispersed and have left their damage behind. To be fully developed, the social concept, of recycling must take into consideration the manufactured goods after they reach the consumer. There cannot be any real environmental control until we develop Technologies to recycle the materials from discarded household equipment, such as automobiles, refrigerators, freezers, washing machines, and vacuum cleaners. Recycling of wastes is not the only aspect of environmental control that can be approached through a new kind of scientific Technology. Buses, trucks, construction equipment, planes, helicopters, street traffic, subways, elevated trains, air conditioners, office machines -- all these and many other sources of high -- level noise can be made quieter through proper engineering techniques. Acoustical science and technology have provided the U.S. Army with an inaudible motor for frontline, use, the Navy with silently operating submarines, and the air force with an almost silent plane. Surely some of the same techniques could be applied to civilian use to alleviate the health hazards of excessive noise.

In his book, the Most probable world, stuart chase describes a hypothetical suburban utopia in which all the environmental problems of the modern world have been solved through enlightened scientific management. But description of this utopia occupies only four pages of his book, as against 226 pages devoted to a factual and depressing statement of our present problems! This proportion symbolizes how much has to be done before

scientific technology can fulfill its potential for human health and happiness. Our situation today is in many ways similar to that which prevailed during the first phases of the industrial Revolution. The development of industry at that time created new sources of wealth, but it also generated appalling living conditions wherever the satanic mills destroyed the natural order of things, particularly in the mushrooming industrial cities. As we now realize, the creation of economic wealth during the industrial revolution was achieved at the cost of physical and mental degradation of human beings.

Half a century ago, pasteurization of milk was violently opposed by the dairy industry on the ground that it was impractical and would price milk out of the market. Scientific study of the problem soon provided an efficient and inexpensive technology of pasteurization; similarly, we can trust that technological solutions can be found for other problems once we decide to face up to them. Environmental improvement presents problems that can be solved only by a new kind of science. The scientific community must recognize these problems and provide the proper conditions for their study. It was public pressure organized by enlightened laymen that placed environmental problems at the forefront of the scientific endeavor during the second half of the 19th century. I believe that we shall soon experience disasters unless the scientific establishment gives high priority to the study of the forces that are rapidly making the earth a place unfit for human life.

As I have already stated earlier scientific and technological innovation has become an accepted norm of western society today. The citizens adjust very quickly to heart transplants, manned orbital flight, computerized fingerprint tracing, and laser surgery. By the same token, he is fascinated but not overwhelmed by forecasts that, in the early 21st century, he will enjoy three -- dimensional movies and television, take advantage of weather manipulation,

and perhaps be able to choose the sex of unborn babies. A heavy proportion of the forecasting of tomorrow's society, concentrates on such specific technological advances. But it is at least equally important, if man is to cope with change, to try to project what are likely to be the social effects of rampant innovation the effects on man's income level, his work routine, leisure habits and standards of values.

What are some of the social prospects for the 21st century ? To begin with, some intellectuals projections show that at the start of the century, percapita income in advanced societies such as the united states, Canada, and Northwestern Europe should range from \$5000 to \$10,000, about three times as high as current levels. The economy will be dominated by a different range of occupations. Today, the biggest concentration is in so-called "Secondary" occupation (manufacturing and processing), which in recent decades increasingly have supplanted the "primary" pursuits : hunting, fishing, forestry, agriculture, and mining. Tomorrow, because of production efficiencies, manufactured goods will become progressively cheaper in terms of a family's income. Services provided by those in third -- tier or "tertiary" occupations, will probably consume a large proportion of the total. This will be particularly true of services provided by highly trained persons whose productivity can be stretched just so far : doctors, teachers, lawyers, accountants, and the like. Persons satisfying society's leisure and entertainment requirements fall in the same category. A fourth -- tier ("quaternary") category also will become increasingly significant. It embraces occupations in which services are provided to those in third -- tier occupations : for instance, the teaching of teachers.

What will be some of the other characteristics of 21st century society?

Noneconomic incentives, as distinguished from salary and prospects of advancement, will become of increasing importance in the choice of a job. By these are meant : the geographical location (Note the rush of scientists and engineers to California and to the semicircle west of Boston) availability of good schools; fringe benefits; and the pleasantness or satisfaction of the work. Computers and other devices will make possible data centers where voluminous information on individuals as well as public and private organizations will be instantly retrievable. The implications are for increased efficiency of many governmental functions, and for increased threats to the privacy and freedom of individuals, if adequate safe guards are not built in. A variety of new polling mechanisms will exist that will take rapid readings of the public pulse. This may have the effect of lessening the concentration of decision making at the top and promoting decision making by consensus. The supply and demand market will be less important as the mechanism for pricing and distributing goods. The reason will be that cheap energy and cheap manufacturing methods requiring little labor will make possible a plentiful supply of consumer products.

As has already been mentioned earlier due to the advancement in the science of medicine we have gained knowledge of organ transplantation. As the general population becomes more knowledgeable about the utility of cadaver organs, they become easier for scientists to obtain. If definitions of death become revised legally and if laws governing the giving of organs are clarified, more persons will be able to have spare parts substituted for failing tissues. A superficial glance shows, however that the demand far exceeds the supply. It is possible that one day even this problem will be solved by use of animal donors. Such xenografts have been attempted in the past but have generally failed because of the gross genetic disparity between donor and

recipient solution to this disparity may be accomplished by altering the genetic makeup of the graft. This might permit tailoring of the antigens in the grafts to match those of the recipient. If this could be done, many of the ethical problems surrounding transplantation would largely disappear because present - day morality finds it acceptable to sacrifice animals to preserve human life.

Advancement in science and technology has led to Dangerous personal choices. The problems of choosing the sex of children and of genetic engineering generally are discussed in these days / in the year 2000. Another problem along this line is that of super cosmetology. People may be able to change their physical appearances even more drastically than they can today. If this is done to excess, perhaps stimulated by faddism, it could lead to loss of identity, depersonalization of the individual and a sense of impermanence in even the closest human relationships. In the more immediate future, there is ample reason to be concerned about the rapidly increasing use of the so -- called mind expanding drugs. Even if it could be proved that these drugs have no adverse physiological effects (many experts claim that marijuana does less physical damage than either alcohol or tobacco), the short -- range gratifications such drugs offer may tend to decrease the user's motivation to perform tasks that are difficult but individually or socially beneficial. Affluence brings with it a more permissive society but some -- one will still have to maintain that society. The mind -- expanding drugs, such as LSD, are only the most dramatic manifestation of the overall drug problem, evident in the increasing use of caffeine, nicotine, aspirin, tranquilizers, sedatives, stimulants, antidepressants, and other mood changers. As psychopharmacology progresses, it may become possible to alleviate not only incapacitating mental illness, but also such states as everyday anxiety, which often serve useful psychological or social purposes. The mass of men may no longer have to

lead what Thoreau called "lives of quiet desperation", but their liberation may be quite different from his hopes.

Aldous Huxley described the possibilities of introducing the "Soma" pill in his Brave New World. When troubles pressed down in anyone, he had only to take a "Soma" to produce a feeling that everything was all right, whether it was or not. Today we are already close to such a pill, with all its potential for producing passivity. The opiate of the people may again be an opiate, in new and improved form. It is not at all clear, whether we can develop institutions or even theories for dealing with this kind of development effectively. The controversy over legalizing marijuana is a case in point. On the one hand, it is said that prohibition did not prevent the use of alcohol; if anything it encouraged such use, and led to an increase in crime. Analogously, keeping the trade in marijuana illegal may have worse consequences than legalization, assuming that marijuana is no worse than alcohol in inflicting physical or mental harm on the user, or in precipitating irresponsible behaviour. On the other hand, this argument becomes valid only after use of marijuana becomes widespread. Until then, it is foolish to argue that marijuana is no worse than alcohol. Why add its potential evils to those of alcohol? Surely, there is something wrong when we have no way of dealing with this problem until widespread usage has become a social norm.

The issue of lengthy hibernation or even the preservation of corpses for possible revival later, has come up in these years. One such experiment already has been undertaken by the cryonics society of California. The "freezing process" is still in the experimental stage; it is not yet known to what extent the human body may be damaged by freezing or how completely any such damage could be repaired. But proponents expect that the appeal of their idea will spread rapidly. At the very simplest level, one can imagine very sick

individuals being put into some state in which their body processes would be slowed perhaps stopped in the hope that cures for their illness would soon be discovered. Meanwhile, however, difficult issues would arise in connection with the care and the preservation of individual and the management of his personal property. The wide-spread application of cryonics might result in a sudden loss of population in an unpleasant year, to be followed by over population when times improved. There is the question of how the thawed persons would adjust to a strange society. One can also imagine staggering legal headaches. Would marriages survive freezing ? Would life insurance pay death benefits ? Would annuities continue ? Even more difficult to deal with, from the viewpoint of social policy, would be the voluntary decision of a healthy individual to hibernate for personal reasons.

Science today is making tall claims. This is evident from the discussion but it has its own limitations. While the application of science and technology are speedily transforming man's life style and confirming his mastery over his environment, basic existential questions are still asked as piognantly as they were being asked centuries ago. For eg what is human destiny ? How could man attain perfection ? How could a catastrophe, feared to arise out of the struggle for supremacy among the developed countries in the world, be avoided ? What would be the shape of human relations twenty years hence ? The burdens the technological age has imposed on man have forced into oblivion his metaphysical sensibility. But the sensibility has something compulsive and inconsumable about it. The most basic search of man, viz ; the search for the meaning of his life, is embedded in it. The sensibility consitutes the 'ontological man' the inside man, ' the inner space' in us, as it is variously called. Its peculiar mode of manifestation, in existential personalities enmeshed in the web of modern civilization is most significantly described by Heidegger

as the metaphysical 'homesickness'. The ontological man cannot be contained within the scientific -- technological life style. He emerges as an alien, a stranger, a misfit, a rebel. The twentieth century technological culture has compelled a change in our view of the individual : he is looked upon as a function, as a mere 'one of them' as one not necessarily with an atman or a human face. Today an individual is defined as a producer, a consumer, an employer or an employee, an executive, a clerk, a manufacturer, an entrepreneur, a statesman, a banker and perhaps last of all, a human being or a person. Science till today inspite of advancement in sophisticated technological devices, has not yet been in a position to unfold/unravel the mysteries of human consciousness mind/ psyche/Ego. And therefore disciplines like existentialism, phenomenology, have made attempts to provide a solution to the problems that are neglected by science.

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CHAPTER II

CONFIRMATION OF SCIENTIFIC APPROACH TO THE WORLD IN VARIOUS MOVEMENTS

Scientism is a challenge today. Language of science and technology are challenges. When we consider science and technology as a way of looking/reviewing **HUMAN REALITY**, one finds that explanation of human reality is given by means of physico-chemical models. Movements like behaviourism, materialism, physicalism, naturalism, mechanistic sciences/mechanism etc., have developed a perspective in which the human mind is translated into brain i.e. the language of mind/self/consciousness is discarded and human behaviour is translated/explained in behavioral language. In other words the 20th century view about human reality is mirrored in/finds an expression in the above mentioned movements. Let us proceed to understand the concept of **MAN/HUMAN REALITY vis-a-vi**

- (1) Behaviourism
- (2) Positivism
- (3) Physicalism
- (4) Materialism
- (5) Naturalism
- (6) Mechanism

their refutation of metaphysics, languages of mind/consciousness/self/ego etc and how they want philosophy in verifiable language.

Behaviourism was an attempt to do one thing --- to apply to the experimental study of man the same kind of procedure and the same language of description that many research men had found useful for so many years in

the study of animals lower than man. They believed that man is an animal different from other animals only in the types of behaviour he displays. ¹

J.B. Watson is the founder of behaviourism. Watson (1878-1958) was an American psychologist who taught at Johns Hopkins University until 1920, after which he took up a career in advertising ('consumer research')

Watson was an extreme monistic materialist who began by rejecting introspection as a method of inquiry and then proceeded to deny the very existence of introspectible states. That is, he denied the existence of all such 'mentalist' items as thoughts, emotions and beliefs. Watson proposed the theory that a thought is nothing but an incipient movement of the larynx and an emotion nothing but an internal pattern of bodily adjustment.

Watson as a psychologist conducted empirical research into the behaviour of rats, and this somehow led him to form a non empirical general theory about the nature of the human mind.

What is Behaviour ?

There has been a lot of disagreement among behavioral psychologists about what is to count as behaviour. In ordinary language the word 'behaviour' is not confined to the actions of human beings, nor even the movements of living things in general. Ordinary language allows us to speak of the actions and reactions, the workings and the performance, in short the 'behaviour', of all kinds of objects and materials, for example, of acids and salts and metals; and organs and cells and other parts of living beings, and volcanoes and glaciers and continental plates; and motor cars and computers and other machines.

But of course the behaviour of behaviourism is human behaviour, or, more generally, animal behaviour.

Some of the things which people and other animals do are done with awareness, that is consciously. Of these are voluntary (for instance actions needed to obtain food), some are involuntary (like sneezing) and some can be either (like blinking and coughing).

Other things which people and animals do or undergo are done or undergone unconsciously. For example a normal healthy individual is not usually conscious of the process of digestion.

Voluntary actions are actions which one can oneself suppress. They are generally conscious, though some are habitual and therefore as it were semi-conscious. Reflex actions are involuntary but it is possible to be conscious of some (but not all) of them. For instance one is normally conscious of the fact that one is sneezing.

Unlike voluntary action, reflex action does not necessarily involve the brain. Which of these types of happening do behaviourists mean to refer to, when they speak of behaviour ?

Generally speaking, contemporary philosophers appear to take 'behaviour' to refer to all publicly observable ordinary voluntary or involuntary acts of which the subject is normally but not invariably conscious -- events like running winking, talking, eating, grimacing and so on. Philosophers of a behaviouristic cast of mind do not necessarily deny the existence of consciousness, nor do they deny that there is a difference between voluntary and involuntary actions.

Experimental psychologists, on the other hand, generally include automatic happenings such as digestion and salivation, also all reflex actions, under the term 'behaviour'.

Some experimental psychologists accept behaviourism as a method without committing themselves to any philosophical theories as to the ultimate

nature of the mind. Others, such as Watson are far more radical; these deny, the existence of mental events as such.

One might feel that it cannot be easy for anyone, even a behaviourist, to claim that there are no genuine differences between physiological happenings, like digestion, of which the subject is not normally conscious, and normally cannot control; events like wincing and winking, which the subject or actor might or might not be aware of; and actions such as writing essay and experimenting with rats, which the actor is normally fully conscious of.

However even radical behaviourists in fact can accept that actions are either conscious and voluntary or reflex. Thus according to the followers of B.F. Skinner the difference between so 'called conscious actions' and reflex action is that the latter is the result of evolution and the former the result of environment; in other words, the distinction has nothing to do with internal mental states. Internal mental states are fictions.

J.B. Waston thought that the forcing of this conviction caused most of the storm. It brought out the same type of resistance that appeared when Darwin's "Origin of species" was first published. Human beings do not want to class themselves with other animals. They are willing to admit that they are animals but "Something else in addition". It is this "something else" that causes the trouble. In this "something else" is bound up everything that is classed as religion, the life hereafter, morals, love of children, parents, country, and the like. The raw fact that you, as a psychologist, if you are to remain scientific must describe the behaviour of man in no other terms than those you would use in describing the behaviour of the one you slaughter, drove and still drives many souls away from behaviourism.

Aug.. 1930

John B. Watson.

Two opposed points of view are still dominant in American psychological thinking --- introspective or subjective psychology, and behaviourism or objective psychology. Until the advent of behaviourism in 1912, introspective psychology completely dominated American University psychological life. The conspicuous leaders of introspective psychology in the first decade of the twentieth century were E.B. Titchner of Cornell and William James of Harvard. The death of James in 1910 and the death of Titchner in 1927 left introspective psychology without emotional leadership. Although Titchner's psychology differed in many points from that of William James, their fundamental assumptions were the same. In the first place, both were of German origin. In the second place, and of more importance, both claimed that consciousness is the subject matter of psychology.

Behaviourism on the contrary, holds that the subject matter of human psychology is the behaviour of the human being. Behaviourism claims that consciousness is neither a definite nor a usable concept. The behaviourist, who has been trained always as an experimentalist, holds, far there, that belief in the existence of consciousness goes back to the ancient days of superstition and magic. The great mass of the people even today has not yet progressed very far away from savagery, it wants to believe in magic. The savage believes that incantations can bring rain, good crops, good hunting, that an unfriendly voodoo doctor can bring disaster to a person or to a whole tribe; that an enemy who has obtained a nail paring or a lock of your hair can cast a harmful spell over you and control your actions. There is always interest and news in magic. Almost every era has its new magic, black or white, and its new magician. Moses had his magic; he smote the rock and water gushed out. Christ had his magic: he turned water into wine and raised the dead to life. Carve had his magic word formula. Mrs Eddy had a similar one. Magic lives

forever. As time goes on, all these critically undigested, innumerably told tales get woven into the folk lore of the people. Folk lore inturn gets organized into religions. Religions get caught up into political and economic network of the country. Then they are used as tools. The public is forced to accept all of the old wives tales, and it passes them on as gospel to its children's children.

The extent to which most of us are shot through which a savage background is almost unbelievable. Few of us escape it. Not even a college education seems to correct it. If anything, it seems to strengthen it, since the colleges themselves are filled with instructors who have the same background. Some of our greatest biologists, physicists, and chemists, when outside of their Laboratories, fall back upon folk lore which has become crystalized into religious concepts. These concepts these heritages of a timid savage past have made the emergence and growth of scientific psychology extremely difficult.

One example of such a religious concept is that every individual has a soul which is separate and distinct from the body. This soul is really a part of a supreme being. This ancient view led to the philosophical platform called "dualism". This dogma has been present in human psychology from earliest antiquity. No one has ever touched a soul, or seen one in a test-tube, or has in any way come into relationship with it as he has with the other objects of his daily experience. Nevertheless, to doubt its existence is the become a heretic and once might possibly even have led to the loss of one's head. Even today the man holding a public position dare not question it.

With the development of the physical sciences which come with the renaissance, acertain release from this stifling soul cloud was obtained. A man could think of astronomy, of the celestial bodies and their motions, of gravitation and the like, without involving soul. Although the early scientists were as a rule devout christians, nevertheless they began to leave soul out of

their test tubes. Psychology and philosophy, however, in dealing as they thought with non-material objects, found it difficult to escape the language of the church, and hence the concept of mind or soul as distinct from the body came down almost unchanged in essence to the latter part of the nineteenth century. Wundt, the real father of experimental psychology, unquestionably wanted in 1879 a scientific psychology. He grew up in the midst of a dualistic philosophy of the most pronounced type. He could not see his way clear to a solution of the mind-body problem. His psychology, which has reigned supreme to the present day, is necessarily a compromise. He substituted the term consciousness for the term soul. Consciousness is not quite so unobservable as soul. We observe it by peering in suddenly and catching it unawares as it were (introspection).

To show how unscientific is the main concept behind this great German-American school of psychology, look for a moment at William James' definition of psychology. "Psychology is the description and explanation of states of consciousness as such". Starting with a definition which assumes what he starts out to prove, he escapes his difficulty by an argumentum ad hominem. Consciousness - Oh, yes, everybody must know what this "consciousness" is. When we have a sensation of red, a perception, a thought, when we will to do something, or when we purpose to do something, or when we desire to do something, we are being conscious.

All other introspectionists are equally illogical. In other words, they do not tell us what consciousness is, but merely begin to put things into it by assumption, and then when they come to analyze consciousness, naturally they find in it just what they put into it. Consequently, in the analyses of consciousness made by certain of the psychologists you find such elements as sensations and their ghosts, the images. With others you find not only

sensations but so-called affective elements, in still others you find such elements as will the so-called conative element in consciousness. With some psychologists you find many hundreds of sensations of a certain type ; others maintain that only a few of that type exist. And so it goes. Literally hundreds of thousands of printed pages have been published on the minute analysis of this intangible something called "consciousness". And how do we begin work upon it? Not by analysing it as we would a chemical compound, or the way a plant grows. No, those things are material things. This thing we call consciousness can be analyzed only by introspection -- a looking in on what takes place inside of us.

As a result of this major assumption that there is such a thing as consciousness and that we can analyze it by introspection, we find as many analyses as there are individual psychologists. There is no way of experimentally attaching and solving psychological problems and standardizing methods.

In 1912 the objective psychologists or behaviourists reached the conclusion that they could no longer be content to work with wundt's formulations. They felt that 30 odd barren years since the establishment of wundt's laboratory had proved conclusively that the so-called introspective psychology of Germany was founded upon wrong hypothesis that no psychology which included the religious mind-body problem could ever arrive at verifiable conclusions. They decided either to give up psychology or else to make it a natural science. They saw their brother scientists making progress in medicine, in chemistry, in physics. Every new discovery in those fields was of prime importance; every new element isolated in one Laboratory could be isolated in some other laboratory; each new element was immediately taken up in the wrap and woof of science as a whole. One need only mention wireless,

radium, insulin, thyroxin, to verify these elements so isolated and methods so formulated immediately began to function in human achievement.

In his first efforts to get uniformity in subject matter and in methods the behaviourist began his own formulation of the problem of psychology by sweeping aside all medieval conceptions. He dropped from his scientific vocabulary all subjective terms such as sensation, perception, image, desire, purpose & even thinking and emotion as they were subjectively defined.

The behaviourist asks: Why don't we make what we can observe the real field of psychology? Let us limit ourselves to things that can be observed, and formulated laws concerning only those things. Now what can we observe? We can observe behaviour - what the organism does or says. And let us point out at once : that saying is doing -- that is, behaving. Speaking overtly or to ourselves (thinking) is just as objective a type of behaviour as base ball.

The rule, or measuring rod, which the behaviourist puts in front of him always is : can I describe this bit of behaviour I see in terms of "Stimulus and response " ? By stimulus we mean any object in the general environment or any change in the tissues, themselves due to the physiological condition of the animal, such as the change we get when we keep an animal from sex activity, when we keep it from feeding, when we keep it from building a nest. By response we mean anything the animal does-such as turning toward or away from a light, jumping at a sound; and more highly organized activities such as building a skyscraper, drawing plans, having babies, writing books, and the like.

What do the behaviourists mean by stimulus ? The behaviourist answer will be as follows. If I suddenly flash a strong light in your eye, your pupil will contract rapidly. If I were suddenly to shut off all light in the room in which you are sitting, the pupil would begin to widen. If a pistol shot were suddenly fired behind you, you would jump and possibly turn your head around. If

hydrogen sulphide were suddenly released in your sitting room yet you would begin to hold your nose and possibly even seek to leave the room. If I suddenly made the room very warm, you would begin to unbutton your coat and perspire. If I suddenly made it cold, another response would take place.

Again, on the inside of us we have an equally large realm in which stimuli can exert their effect. For example, just before dinner the muscles of your stomach begin to contract and expand rhythmically because of the absence of food. As soon as food is eaten contractions cease. By swallowing a small balloon and attaching it to a recording instrument we can easily register the response of the stomach to lack of food and note the lack of response when food is present. In the male, at my rate, the pressure of certain fluids (semen) may lead to sex activity. In the case of the female possibly the presence of certain chemical bodies can lead in similar way to overt sex behaviour. The muscles of our arms and legs and trunk are not only subject to stimuli coming from the blood; they are also stimulated by their own responses - that is, the muscle is under constant tension; any increase in that tension, as when a movement is made, gives rise to a stimulus which leads to another response in that same muscle or in one distant part of the body; any decrease in that tension, as when the muscle is relaxed, similarly gives rise to a stimulus.

So we see that the organism is constantly assailed by stimuli -- which come through the eye, the ear, the nose and the mouth -- the so-called objects of our environment; at the same time the inside of our body is likewise assailed at every movement by stimuli arising from changes in the tissues themselves. Don't get the idea, please that the inside of your body is different from or any more mysterious than the outside of your body.

Through the process of evolution human beings have put on sense organs -- specialized areas where special types of stimuli are most effective --

such as the eye, the ear, the nose the tongue, the skin and semi-circular canals. To these must be added the whole muscular system, both the striped muscles (for example, the large red muscles of arms, legs and trunks) and the unstriped muscles (those, for example, which make up the hollow tubelike structures of the stomach and intestines and blood vessels). The muscles are thus not only organs of response -- they are sense organs as well. Many of our most intimate and personal reactions are due to stimuli set up tissue changes in our striped muscles and in our viscera.

One of the problems of behaviourism is what might be called the ever-increasing range of stimuli to which an individual responds. Indeed so marked is this that you might be tempted at first sight to doubt the formulation we gave above, namely, that response can be predicted. If you will watch the growth and development of behaviour in the human being, you will find that while a great many stimuli will produce a response in the newborn, many other stimuli will not. At any rate they do not call out the same response they later call out. For example you don't get very far by showing a new-born infant a crayon, a piece of paper, or the printed score of a Beethoven symphony. In other words, habit formation has to come in before certain stimuli can become effective.

Behaviourists have brought out the fact that from birth to death the organism is being assailed by stimuli on the outside of the body and by stimuli arising in the body itself. Now the organism does something when it is assailed by stimuli. It responds, it moves. The response may be so slight that it can be observed only by the use of instruments. The response may confine itself merely to a change in respiration, or to an increase or decrease in blood pressure. It may call out merely a movement of the eye. The more commonly

observed responses, however, are movements of the whole body, movements of the arm, leg, trunk, or combinations of all the moving parts.

Usually the response that the organism makes to stimulus brings about an adjustment, though not always. By an adjustment we mean merely that the organism by moving so alters its physiological state that the stimulus no longer arouses reaction. This may sound a bit complicated, but examples will clear it up. If I am hungry, stomach contractions begin to drive me ceaselessly to and for. If, in these restless seeking movements, I spy apples on a tree, I immediately climb the tree and pluck the apples and begin to eat. When surfeited, the stomach contractions cease. Although there are apples still hanging round about me, I no longer pluck and eat them. Again, the cold air stimulates me. I move around about until I am out of the wind. In the open I may even dig a hole. Having escaped the wind, it no longer stimulates me to further action. Under sex excitement the male may go to any length to capture a willing female. Once sex activity has been completed the restless seeking movements disappear. The female no longer stimulates the male to sex activity.

The behaviourists has often been criticized for this emphasis upon response. Some psychologists seem to have the notion that the behaviourist is interested only in the recording of minute muscular responses. Nothing could be further from the truth. Let me emphasize again that the behaviourist is primarily interested in the behaviour of the whole man. From morning to night he watches him perform his daily round of duties. If it is brick laying, he would like to measure the number of bricks he can lay under different conditions, how long he can go without dropping from fatigue, how long it takes him to learn his trade, whether we can improve his or get him to do the same amount of work in a less period of time. In other words, the response the behaviourist is,

interested in is the commonsense answer to the question "what is he doing and why is he doing it" Surely with this as a general statement, no one can distort the behaviourists platform to such an extent that it can be claimed that the behaviourist is merely a muscle physiologist.

The behaviourist claims that there is a response to every effective stimulus and the response is immediate. By effective stimulus we mean that it must be strong enough to overcome the normal resistance to the passage of the sensory impulse from sense organs to muscles. Don't get confused at this point by what the psychologist and the psycho-analyst sometimes tell you. If you read their statements, you are likely to believe that the stimulus can be applied today and produce its effect may be the next day, may be within the next few months, or years. The behaviourist doesn't believe in any such mythological conception.

The two commonsense classifications of response are "external " and "internal" -- or possibly the terms "overt" (explicit) and "implicit" are better. By external or overt responses we mean the ordinary doings of the human being : he stoops to pick up a tennis ball, he writes a letter, he enters an automobile and starts driving, he digs a hole in the ground, he sits down to write a lecture, or dances, or flirts with a woman. We do not need instruments to make these observations. On the other hand, responses may be wholly confined to the muscular and glandular systems inside the body. A child or hungry adult may be standing stock still in front of a window filled with pastry, your first exclamation may be "He isn't doing anything" or "He is just looking at the pastry". An instrument would show that his salivary glands are pouring out secretions, that his stomach is rhythmically contracting and expanding, and that marked changes in blood pressure are taking place - that the endocrine glands are pouring substances into the blood. The internal or implicit responses

are difficult to observe, not because they are inherently different from the external or overt responses, but merely because they are hidden from the eye.

Another general classification is that of learned and unlearned responses. I brought out the fact above that the range of stimuli to which we react is ever increasing. The behaviourist has found by his study that most of the things we see the adult doing are really learned. We used to think that a lot of them were instinctive, that is "unlearned". But we are now almost at the point of throwing away the word "instinct". Still there are a lot of things we do that we do not have to learn - to perspire, to breathe, to have our heart beat, to have digestion take place, to have our eyes, turn toward a source of light to have our pupils contract, to show a fear response when a loud sound is given let us keep as our second classification then "Learned responses", and make it include all of our complicated habits and all of our conditioned responses, and "unlearned" responses, and mean by that all of the things that we do in earliest infancy before the processes of conditioning and habit formation get the upper hand.

Another purely logical way to classify responses is to designate them by the sense organ which initiates them. We would thus have a visual unlearned response -- for example, the turning of the eye of the youngster at birth toward a source of light. Contrast this with a visual learned response, the response for example, to a printed score of music or a word. Again, we could have a kinaesthetic. Unlearned response when the infant reacts by crying to a long sustained twisted position of the arm. We could have a kinaesthetic learned response when we manipulate a delicate object in the dark or, for example, tread a tortuous maze. Again, we can have a visual unlearned response as, for example, when stomach contractions due to the absence of food in the 3 day old infant will produce crying. Contrast this with learned or visceral conditioned

response where the sight of pastry in a baker's window will cause the mouth of the hungry schoolboy to water. This discussion of stimulus and response shows what material we have to work with in behaviourist psychology and why behaviouristic psychology has as its goal to be able, given the stimulus, to predict the response - or, seeing the reaction take place to state what the stimulus is that has called out the reaction.

One may ask an explanation of mental traits whether they are inherited or not. When it comes to the question of inheritance everyone admits this about bones and tendons and muscles -- "now how about mental traits? Does the behaviourist mean to say that great talent is not inherited? That criminal tendencies are not inherited? Surely we can prove that these things can be inherited". This was the older idea, the idea which grew up before we knew as much about what early shaping throughout infant life will do as we know now. The question is often put in specific form: "Look at the musicians who are sons of musicians: look at wisely smith, the son of the great economist, John Smith -- surely a chip off the old block if ever there was one. The behaviourist recognizes no such things as mental traits dispositions or tendencies. Hence, for him, there is no use in raising question of the inheritance of talent in its old form.

As J.B. Watson says "I should like to go one step further now and say, " give me a dozen healthy infants, well-formed, and my own specified world to bring them up in and I'll guarantee to take any one at random and train him to become any type of specialist I might select doctor, lawyer, artist, merchant, chief and yes, even beggar -- man and thief, regardless of his talents, penchants, tendencies, abilities, vocations, and race of his ancestors" I am going beyond my facts and I admit it, but so have the advocates of the contrary and they have been doing it for many thousands of years. Please note

that when this experiment is made I am to be allowed to specify the way the children are to be brought up and the type of world they have to live in".

You will find, then, the behaviourist working like any other scientist. His sole object is to gather facts about behaviour ---- verify his data -- subject then both to logic and to mathematics. (the tools of every scientist). He brings the new-born individual into his experimental nursery and begins to set problems : What is the baby doing now. What is the stimulus that makes him behave this way? He finds that the stimulus of tickling the cheek brings the response of turning the mouth to the side stimulated. The stimulus of the nipple brings out the sucking response. The stimulus of rod placed on the palm of the hand brings closure of the hand and the suspension of the whole body by that hand and arm if the rod is raised stimulating the infant with a rapidly moving shadow across the eye will not produce blinking until the individual is sixty five days of age. Stimulating the infant with an apple or stick of candy or any other object will not call out attempts at reaching until the baby is around 120 days of age. Stimulating a properly brought up infants at any age with snakes, fish, darkness, burning paper, birds, cats, dogs, monkeys will not bring out that type of response which we call "fear" (which to be objective we might call reaction "X") Which is a catching of the breath, a stiffening of the whole body, a turning away of the body from the source of stimulations, a running or crawling away from it.

On the other hand there are just two things which will call out a fear response, namely, a loud sound, and loss of support. Now the behaviourist finds from observing children brought up outside of his nursery that hundreds of these objects will call out a fear response, consequently, the scientific question arises : If at birth only two stimuli will call out fear, how do all these other things ever finally come to call it out ? Please note that the question is

not a speculative one. It can be answered by experiments, and the experiments can be reproduced and the same findings can be had in every other laboratory if the original observation is sound. Convince yourself of this by making a simple test.

If you will take a snake, mouse or dog and show it to a baby who has never seen these objects or been frightened in other ways, he begins to manipulate it, poking at this, that or the other part. Do this for ten days until you are logically certain that the child will always go towards the dog and never run away from it (positive reaction) and that it does not call out a fear response at any time. In contrast to this, pick up a steel bar and strike upon it loudly behind the infant's head. Immediately the fear response is called forth. Now try this : At the instant you show him the animal and just as he begins to reach for it strike the steel bar behind his head. Repeat the experiment three or four times. A new and important change is apparent. The animal now calls out the same response as the steel bar, namely a fear response. The behaviourists call this in behaviouristic psychology, the conditioned emotional response -- a form of conditioned reflex.

The above discussion reveals that behaviourism as a philosophical theory is as old as reductive materialism. In his *De Corpore* Hobbes attempted to interpret all mental states in terms of matter in motion. his is probably the most celebrated theory of this sort. Contemporary discussion of behaviourism, however, starts with the work of J.B. Watson.² Watson aimed to established psychology a science, protesting against what he viewed as the subjectivism of introspectionist psychology. Holding that a truly scientific enterprise seeks prediction and control, Watson maintained that only "objective" methods will enable achievement of these goals. He believed that objectivity inturn requires that different scientists be able to observe the same object and events. States

of consciousness being private, observation of behaviour alone is able to provide the necessary data for scientific psychology. The behaviourism Watson espoused received powerful support from the dramatic experimental work of Ivan Pavlov. Watson believed that psychology could be reduced to physics -- that psychological phenomena were ultimately nothing more than molecular motions. But the reduction could be achieved only through physiological investigation. Hence, sound physiological theory was, for Watson the door to the promised land.

A behaviourist believes that behaviour is in some way central to the study of human beings. But what is meant by "behaviour"? The question is not as simple as it seems. Suppose "behaviour" is defined following common sense as any movement of an organism. This definition encounters a number of difficulties. First, there are certain behaviourists who wish to restrict the range of movement to which the term "behaviour" applies so as to exclude physiological processes. (Is the heart's pulsation a form of behaviour?). Although Watson's classical formulation of behaviourism embraces such movements B.F. Skinner prefers a more restrictive conception: In the behaviour of organisms Skinner first defines "behavior" as "the action of the organism upon the outside world". His aim was to eliminate physiological processes from the range of phenomena with which the psychologist is properly concerned. Watson and Skinner agree however, that by "behaviour" is meant some sort of movement of the organisms.

The American psychologist B.F. Skinner is a radical behaviourist strongly influenced by the work of J.B. Watson. Like Watson he is by profession an experimental psychologist, and like Watson he has proposed a general philosophical theory about the nature of the mind. ³

Skinner writes ' I do not believe that there is a world of mentation (i.e. mental happenings) or subjective experience thinking is simply behaving and may be analysed as such'.

It looks as if he is saying that he thinks there are no thoughts and believes there are no beliefs'.

The reasons he adduces for this difficult position are as follows. It is possible to give causal explanations of the laboratory behaviour of rats and other experimental animals without making any reference to the creatures' feelings and beliefs. Rats behaviour appears to consist of reflex actions, which can be explained in terms of genetic theory, and of actions which the rats have been trained to do that is, which they have been induced to perform by external conditions such as pains and rewards. These external conditions can be imposed by a human experimenter, or they might instead just be part of the physical environment. Skinner thinks that human beings too are trained by undergoing the painful or pleasant consequences of their own actions, and indeed says that all human behaviour which is not part of the genetic endowment can ultimately be explained in terms of natural or social punishments and rewards.

Well, but doesn't the rat, or the human being, behave as it does because it associates pleasure (eg. food) and pain with certain of its own actions, and also because it wants the food and fears the pain, and son on? And surely making associative connections, and wanting, and fearing, are mental events ? If the rat made no associations and had no wants or fears it would not learn, would it ?

To this and similar objections Skinner has five answers.

All feelings, including fearing and wanting, are bodily, not mental.

Skinner gives no proof of this, apart from the suggestion that the word 'feeling' just means something bodily. Now this is a linguistic argument, and it won't work unless the linguistic facts are as Skinner asserts them to be. But if we look at the linguistic facts there is little evidence that the word 'feeling' invariably makes direct reference to locatable bodily events. For example it is unrealistic to insist that the sense of the word 'feel' in the sentence 'I feel that Skinner has made a mistake here' is such as to involve any direct reference to locatable bodily events.

Skinner second answer is

If internal mental non-bodily feelings did exist, they would be much harder to identify than behaviour.

But this is only a methodological consideration and as such cannot prove that feelings don't exist.

His third answer is

The animal does not make associations : the associations are made by the experimenter.

In the second part of this reply Skinner asserts the existence of the thing whose existence he denies in the first part. For what he here says is that, although when rats or human beings are being experimented on they have no interior mental life, the experimenters themselves do have a mental life so at least some creatures have a mental life, namely experimental psychologist.....

The fourth answer is

Intentions, purposes and such like mental items are inventions.

Skinner says that it is only under experimental conditions that the causal connections between conditioning and behaviour become obvious. Environmental causes of human behaviour are rarely obvious. For this reason

the concepts of intentions, purpose, emotion and so on have been invented in a vain attempt to explain behaviour, in the same way that the ancient Greeks invented Zeus in a vain attempt to explain thunder.

Well, who invented these notions of intention, emotion etc ? And what is it to invent a notion ? Isn't the concept of inventing a notion at least as mentalistic and therefore in Skinner's terms at least as vain and superfluous as the notions of intention, emotion and purpose themselves ? Try as he might, Skinner seems unable to escape from the mentalistic concepts he derides. Perhaps they are not superfluous after all.

And the fifth answer is

All reference to mental items is pre-scientific (i.e. unscientific).

Using an unexamined notion of the scientific, Skinner says that virtually all thinkers before Newton were unscientific. He then accuses anti-behaviourists of being unscientific in the same way as he believes Aristotle to have been.

He remarks

Aristotle argued that a falling body accelerated because it grew more jubilant as it found itself nearer home..... later authorities supposed that a projectile was carried forward by an impetus sometimes called an 'impetuously' All this was eventually abandoned, and to good effect, but the behavioural sciences still appeal to comparable internal states.

In other words, Skinner not only thinks that only scientific reasoning is valid, and not only sees no reason to examine the concept of the scientific, he also thinks that personifying is just as 'unscientific', just as unreasonable, as personifying inanimate objects.

Skinner's most important underpinning philosophical principle, implicit in all his work, is usually assumed rather than blended by him.

A second difficulty immediately arises. Skinner, like most psychologists, discusses "verbal behaviour". By this he means not such behaviour as an organism's movements but rather sounds produced by those movements. To accommodate this extension Skinner adds that "it is often desirable to deal with an effect rather than with the movement itself, as in the production of sounds".

But this modified conception encounters still another difficulty. The movement of one's arm would clearly seem to be an instance of behaviour, but suppose that the arm's motion was the result of a hurricane's effect on that limb. Would a movement produced in this way be behaviour? Or must the movement be involved in something the organism is doing, some action it performs? This qualification seems to throw the net too wide for among the things a human organism does are dreaming, observing, inferring and so on. These do not seem to be behaviour in any obvious sense. They seem to be precisely the sorts of processes behaviourism was originally designed to exclude. (Nonetheless, there are those who regard these states as forms of behaviour) For behaviourism of any variety seeks to restrict the scope of the term "behaviour" to those things which are overt, are observable. Perhaps, then, "behaviour" may be defined as "whatever an organism does, provided it acts upon the outside world". The necessary and sufficient test of whether the movement does "act upon the outside world" being its observability. For if the thing done acts upon the outside world, then it is presumably the sort of thing that can be observed. "Behaviour" in its secondary sense indicates those effects produced by such movements when it happens to be convenient so to regard such effects.

But even this definition encounters difficulties -- which a few illustrations will make clear: Among the things human organisms do and which are observable are moving one's arm, throwing rocks at windows, and writing in

pain. The following locations are perfectly common. "I saw him move his arm". "I noticed him throwing a rock at the window"; "As soon as I saw that he was writing in pain; I called the doctor". (that is, these are actions we are able to observe). Although such reports are frequently made, they may be false. Although his arm moved, he may not have moved it. Although the rock he threw did go through the window, he may not have intended that it should. Although he did lie on the ground, twisting grunting and groaning, he may have been play acting; he may not have been in pain at all. In all three cases the error may depend on the nonoccurrence of something that is, in an obvious sense, not observable. That is whatever distinguishes his moving his arm from his arm moving, an intention to throw the rock through the window, or a pain. We are left with the paradoxical situation that, for example, although one can observe a person writing in pain, one cannot observe the pain without which the report would be false. It seems clear that if behaviour is not to be made trivial at least in relation to the concerns that originally generated the position the criterion of observability must be modified so that it pertains only to those aspects of something done which can be observed. One can observe the movements that are described as "writing", but not the pain. One can observe the motions of the arm and rock but not the intention with which the rock was thrown. One can observe the moving but not the elusive something which makes it a case of his moving his arm. But if this restriction is imposed, behaviourism collapses into what might be called the motionism. Some behaviorist (for example, Paul Ziff) welcome the extended sense implicit in the view that writing in pain is behaviour in the intended sense. Others (for example, B.F. Skinner) try to get round the problem by defining such things as "intentions" and "pains" in terms of functional relations that refer exclusively to antecedent stimulus conditions and motions of bodies. The differences between

behaviourism constructed in these different ways quite significantly influence what philosophers and psychologists take to be their proper object of inquiry.

Current philosophical defences of behaviourism have a common point of origin: the conviction that our ordinary psychological language cannot be correctly analyzed in a way consistent with the defining tenets of cartesian dualism. That is, what we actually mean when we say things like "He is in pain" cannot be explained in cartesian terms. By cartesian dualism is meant the view that (1) there are two causally unrelated substances, mental and physical; (2) Whatever is mental is private; and (3) therefore the only way a person can know that he is in a certain mental state is through observation of his own internal states. It is important to note that behaviourism is only one of many alternatives to cartesian dualism. For example, one might deny that mental states are the sorts of things that one observes about oneself but accept the two-substance view. Behaviourism results only if one denies that there are two substances and maintains that all mental terms can be analyzed in terms of behaviour. Normally, those who are behaviorist in this sense understand the position as implying that all so-called mental states are simply behaviour and are therefore overt and publicly observable. Seemingly private events, such as talking silently to oneself, are reinterpreted as verbal behaviour which it may be difficult but not, in principle, impossible for others to observe. (for example, via laryngeal movements).

Although Gilbert Ryle is willing to have his views labeled 'behaviourism', some of the concessions he makes imply that he does not believe that straight forward behavioral analyses can be provided for all our mental terms particularly not for sensation terms like "pain". A.O. Lovejoy, in "paradox of the thinking Behaviourist," sought to prove that "behaviourism..... belongs to that class of theories which become absurd as soon as they become

articulate ". In his argument, directed principally against J.B. Watson's views, lovejoy tried to show that the behaviourist does make cognitive claims, for example, he may claim to be aware of objects external to himself. But the moment the behaviourist makes such claims he involves himself in contradiction from which he can extricate himself only by denying that he knows anything -- which is an absurd alternative from the behaviourists own point of view. Hence, the behaviourist must either contradict himself or lapse into absurdity. The alleged contradiction consists in this : Awareness of things distant in time and space cannot be identical with movements of certain muscles. (Watson maintained that they are identical) or with bodily movements of any sort. For no such description of internal bodily events can account for the reference made to external objects. In reply to this kind of argument, Ryle argues that what is it to be aware of something has to be understood dispositionally. An analysis of "A is aware of (or observe) the chair" will take the following form : "If a chair is present, and given such and such other conditions will behave in such and such ways. " This dispositional statement makes the required reference to external objects. But the only things not external to the body to which the despositional statement refers are behavioural processes.

C.D. Broad advances two arguments against behaviourism. One of his criticisms is that "however completely the behaviour of an external body answers to the behaviouristic test for intelligence, it always remains a perfectly sensible question to ask : 'Has it really got a mind, or is it merely an automation ? Here it is assumed that "having a mind" or attributing similar psychological predicates to an object cannot have the same meaning as any terms referring to actual and possible behaviour. But to this the behaviourist can reply that living organisms are in fact automata, although of very

complicated sorts. That is the behaviorist can claim that Broad begs the underlying question which is at issue ----- whether human animals are not, after all, merely very complex automata, and whether living organisms in general are not more or less complicated automata. Alternatively, the behaviourist can admit the distinction between automata and living organisms but can insist that Broad is wrong in supposing that his question makes sense once certain behaviour is observed. That is, the occurrence of certain behaviour is logically sufficient ground for denying that what is observed is an automation. For example, if you saw an object making Martinis, passing them to other objects, uttering sounds in an animated fashion while pouring some of the liquid through an orifice in the round thing on top of the object, you might take this as conclusive evidence that the object is after all, a living human being. The third response open to a behaviorist is that the essential difference between an automation and a living organism has nothing to do with behaviour but is instead a matter of mode of origin or chemical composition. For example, a living being is born of woman and has calcium compounds constituting its bones, in contrast to the metal automata manufactured by affiliate of the international business Machines corporation.

Broad's second criticism is that perception necessarily involves sensations and that this sensational element cannot be analyzed behaviourally. He supposes, for purpose of argument, that certain molecular changes accompany particular sensations. It is nevertheless true that the sensation and the molecular changes are distinct. For, Broad maintains, we can ask questions about the molecular changes for example, are they show, circular etc? which are non sensical in the case of sensation like the awareness of red patch. But the behaviorist can reply to this that of course sensations are distinct from molecular changes, but that this is so because sensations are dispositional

properties. Broad considers the possibility and argues that the sort of behaviour that will occur depends on the intentions or wants of the person who perceives. But again the behaviour it has a ready reply. Intentions and wants, he can maintain, are themselves nothing but dispositional properties of organisms.

At this point the critic of behaviourism might argue that it is absurd to suppose that sensations such as pain can be analyzed dispositionally. After all, he might claim, if pain were a behavioral disposition, it would be necessary for a person who is in pain to discover the fact by observing his own behaviour. But the supposition is absurd, as pain is something one is directly aware of. To this, however, the behaviourist can reply as Paul Ziff does, that events which are undoubtedly behavioural, such as moving one's arm, are events of which the actor is directly aware. It is not necessary for a person to observe that he is moving his arm in order to know that he is. There is no essential difference between behaviour and sensations in precisely that respect to which the critic appeals. However, as was observed earlier, this defense of behaviourism seems to purchase life for the doctrine by so construing "behaviour" as to re-introduce precisely those elements the elimination of which generated behaviourism in the first place that is, states of consciousness or other mental states not accessible to direct observation. Although I can observe someone moving his arm, I cannot observe the aspect of things that involved in his moving it rather than its moving without his moving it.

Positivism :-

The logical positivists thought of themselves continuing a nineteenth - century Viennese empirical tradition, closely linked with British empiricism and culminating in the antimetaphysical, scientifically oriented teachings of Ernst

Mach. In 1907 the mathematician Hans Hahn, the economist Otto Neurath, and the physicist, Philip Frank, all of whom were later to be prominent members of the Vienna circle, came together as an informal group to discuss the philosophy of science. They hoped to give an account of science which would do justice -- as, they thought, Mach did not -- to the central importance of mathematics, logic and theoretical, physics, without abandoning Mach's general doctrine that science is, fundamentally, the description of experience. As a solution to their problems, they looked to the "new positivism" of Poincare in attempting to reconcile Mach and Poincare they anticipated the main themes of logical Positivism. ⁴

In 1922, at the invitation of members of the "Vienna group", Moritz schlick was invited to Vienna as professor, like Mach before him (1895-1901), in the philosophy of the Inductive sciences. Schlick had been trained as a scientist under Max Planck and had won a name for himself as an interpreter of Einstein's theory of relativity. But he was deeply interested in the classical problems of philosophy, as Mach had not been.

Around Schlick, whose personal and intellectual gifts particularly fitted him to be the leader of a cooperative discussion group, the "Vienna circle" quickly established itself. Its membership included otto Neurath, Fredrich Waismann, Edgar Zilsil, Bila Von Juhos, Felix Kaufmann, Herbert Feigl, Victor Kraft, Philip Frank - although he was by now teaching in Prague Karl Menger, Kurt Godel and Hans Hahn. In 1926 Rudolf carnap was invited to Vienna as instructor in philosophy, and he quickly became a central figure in the circle's discussions; he wrote more freely than the other members of the circle and came to be regarded as the leading exponent of their ideas. Carnap had been trained as a physicist and mathematician at Jena, where he had come under

Frege's influence. Like other members of the circle, however, he derived his principal philosophical ideas from Mach and Russell.

Ludwig Wittgenstein and Karl Popper were not members of the circle but had regular discussions with its members. In particular, Wittgenstein was in close contact with Schlick and Waismann. Wittgenstein's *Tractatus Logico-Philosophicus* has a profound influence on the deliberations of the circle, where it was interpreted as a development of British empiricism.

The circle ascribed to Wittgenstein the "Verifiability principle..... that the meaning of a proposition is identical with the method of verifying it..... that is, that a proposition means the set of experiences which are together equivalent to the propositions being true. Wittgenstein they also thought, had shown how an empiricist could give a satisfactory account of mathematics and logic. He had recognized that the propositions of logic and mathematics are tautologies (The logical positivist paid no attention to Wittgenstein's distinction between tautologies and identities). They are independent of experience" only because they are empty of content, not because, as classical rationalists had argued, they are truths of higher order than truths based on experience.

In the German speaking countries, the Vienna circle was a small minority group. For the most part, German speaking philosophers were still committed to some variety of "German idealism". Neurath, with his strong socio political interests, was particularly insistent that the circle should act in the manner of a political party, setting out to destroy traditional metaphysics, which he saw as an instrument of social and political reaction.

In 1928 the significantly named Verein Ernst Mach (Ernst Mach Society) was set up by members of the circle with the avowed object of "propagating and furthering a scientific outlook" and "creating a intellectual instruments of modern empiricism". To Welcome Schlick back to Vienna in 1929 from a

visiting professorship at Stanford, California. Carnap, Hahn and Neurath prepared a manifesto under the general title Wissenschaftliche Weltanschauung, Der Wiener Kreis ("The scientific world view: The Vienna circle"). This manifesto traced the teachings of the Vienna circle back to such positivists as Hume and Mach, such scientific methodologists as Helmholtz, Poincaré, Duhem, and Einstein, to logicians from Leibniz to Russell, utilitarian moralists from Epicurus to Mill and to such sociologists as Feuerbach, Marx, Herbert Spencer, and Karl Menger. Significantly absent were only representatives of the "German tradition" -- even, although somewhat unfairly, Kant.

In order to make its conclusions familiar to a wider world, the circle organized a series of congresses. The first of these was held in Prague in 1929 as a section of a mathematical and physical, not a philosophical, congress. It was jointly sponsored by the Ernst Mach society and the society for empirical philosophy; a Berlin group led by Hans Reichenbach and with such members as Walter Dubislav, Kurt Grelling and Carl Hempel, which stood close in its general approach to the Vienna circle.

Meanwhile the international affiliations of the circle were increasing in importance. American philosophers like C.W. Morris emphasized the link between logical positivism and American pragmatism. Ernest Nagel and W.V. Quine visited Vienna and Prague. In Great Britain, logical positivism attracted the interest of such Cambridge -- trained philosophers as L. Susan Stebbing and John Wisdom and the Oxford philosophers Gilbert Ryle and A. J. Ayer, the latter participating for a time in the deliberations of the circle. In France such philosophers of science as Louis Raugier were attracted by logical positivism; as were a group of Neo -- Thomists led by Gabriel Vouillemin, who welcomed the positivist critique of idealism. In Scandinavia, where the way had been prepared by the antimetaphysical philosophy of Hagerstrom, a number of

philosophers sympathized with the aims of the logical positivists; minor Kaila, Arne Naess, Ake Petzall, and Jorgen Jorgenson were prominent representatives of the international movement centering on logical positivism. The Polish logicians, especially Alfred Tarski, exerted a considerable influence on members of the circle particularly on Carnap. German philosophers, except for Heinrich Scholz of Munster and the Berlin group, remained aloof. Undoubtedly the organizational energies the circle did much to bring into being in the 1930's and international community of empiricists; this was largely a consequence of the circle's isolation within the German countries themselves.

Meanwhile the circle was publishing. In 1930 it took over the journal Annalen der Philosophie and renamed it Erkenntnis. In the period from 1930 to 1940 it served as a "house organ" for members of the Vienna circle and their associates. In addition the circle prepared a series of monographs under the general title Veroffentlichendes Vereines. Ernst Mach (from 1928 to 1934) and Einheitswissenschaft (edited by Neurath from 1934 until 1938).

During the 1930's however, the Vienna circle disintegrated as a group. In 1931 Carnap left Vienna for Prague, in that year Feigl went to Iowa and later to Minnesota; Hahn died in 1934; in 1936 Carnap went to Chicago and Schlick was shot by a mentally deranged student. The meetings of the circle were discontinued. The Ernst Mach society was formally dissolved in 1938; the publications of the circle could no longer be sold in German speaking countries. Waismann and Neurath left for England; Zilsel and Kaufmann followed Feigl, Carnap, Menger, and Godel to the United States. Erkenntnis moved in 1938 to the Hague, where it took the name Journal of Unified Science; it was discontinued in 1940. Logical positivism, too, disintegrated as a movement, absorbed into international logical empiricism.

In other words narrowly defined, logical positivism was an organised science -- oriented movement centered in Vienna during the 1920's and 1930's, a movement severely critical of metaphysics, theology, and traditional philosophy. Also known as logical empiricism, logical positivism may be more broadly defined as a doctrine born of classical empiricism and nineteenth century positivism and sharpened by an empirical interpretation of the early logical writing of Ludwig Wittgenstein (1889-1951)

In either case, the distant origins of logical positivism lie in the long history of philosophical empiricism, the tradition holding that all knowledge must be derived from human experience alone. More particularly, the empiricism of John Locke (1632-1704), George Berkeley(1685-1753), and David Hume (1711-1776), with their cumulatively ever more radical elimination of nonempirical sources of knowledge, served as inspiration for the scientific views of the influential vienna physicist and theorist of science, Ernst Mach (1836-1916). In addition the positivist movement of the nineteenth century, founded by Auguste Comte (1798-1857), with its intense admiration for natural science, its anticlerical and anti-metaphysical commitments, and its self-conscious programmes for social and religious reform, lay behind not only Mach but also the small group of mathematical, natural, and social scientists who gathered in Vienna as early as 1907 to discuss Mach's views. In 1922 this group was successful in bringing Moritz schlick (1882-1936) who was scientifically trained under the great German physicist Max Planck (1858-1947) but also keenly interested in philosophical issues, to the chair once held by Mach at the university of vienna, Schlick quickly drew around him a circle of like minded thinkers, mainly from the sciences, some of whom formed in 1928 the verein Ernst Mach (the Ernst Mach society). What soon became known as logical positivism was formulated by this group. The Vienna circle, as they

came to be known, issued a "manifesto" in 1929, organized international meetings, and in 1930 took over a journal renamed *Erkenntnis*, for the advancement of its increasingly sharp position.

The distinctively "logical" character of the radically empiricist vienna circle was derived from the careful study (a line-by-line examination from 1924 to 1926) of wittgenstien's Tractatus Logico - Philosophicus, which had been completed by 1918 and first published in 1921 (in German under the title *Logisch -- philosophische Abhandlung*), just prior to the vienna circle. Wittgenstein was never a member of the circle and was not sympathetic either to its party spirit or to the "grandiloquence" of its pronouncements, but from 1927 to 1929 he engaged in conversations with schlick and other members of the circle, Wittgenstien 's logical doctrine formed the circle's Sharpest weapeon against methaphysics and theology; the characterization of them not merely as false or outmoded, as commute and the classical positivists had claimed, but as strictly "nonsense"

It was from wittgenstein that the Vienna Circle drew its insistence that all meaningful statements are either analytic (and logically certain merely because they are tautologies) or synthetic (and "truth -- functionally" analyzable into basic propositions corresponding to ultimately simple facts). The circle gave its own characteristic interpretation of what qualified as there "atomic facts" : sense - experience. With this interpretation came support for two of the circle's three primary positions (1) the doctrine of the unity of science, Mach's Key project, on the ground that all the sciences can be reduced equally to variously complex ("Molecular") reports on experience, and (2) the doctrine of the valuelessness of metaphysics, on the ground that metaphysical utterances, by attempting to go "beyond" experience fact to point to simple sense - experiences and thus are devoid of cognitive content.

Both doctrines were incorporated in and defensible by the third, the single most characteristic doctrine enunciated by the logical positivists : The Verification principle of meaning, fashioned in light of Wittgenstein's analysis of the logic of language. The principle itself "the meaning of a proposition is the method of its verification", though not appearing in the Tractatus Logico-philosophicus, was attributed to a remark by Wittgenstein and was first published in the initial volume of *Erkenntnis* (1930-1931).

Metaphysics of the traditional branches of philosophy, the positivists rejected transcendental metaphysics on the ground that its assertions were meaningless. Since there was no possible way of verifying them in experience. Nothing that we could possibly experience. They argued, would serve to verify such assertions as "The Absolute is beyond time". Therefore, the positivists held, it tells us nothing. The rejection of transcendental metaphysics was not a novelty, Hume had described transcendental metaphysics as "Sophistry and illusion" and has alleged that it makes use of insignificant expressions; Kant and the Neo-Kantians had rejected its claim to be a form of theoretical knowledge Mach had sought to remove all metaphysical elements from science. But whereas earlier critics of metaphysics had generally been content to describe it as empty or useless or unscientific. The logical positivists took over from Wittgenstein's *Tractatus* the rejection of metaphysics as meaningless. The propositions of metaphysics, they argued, are neither true nor false; they are wholly devoid of significance. It is as nonsensical to deny as to assert that the Absolute is beyond time.

The Meaninglessness of metaphysics :-

Metaphysical statements fail to meet the empiricist's criterion of meaning and are therefore to be designated as meaningless. Carnap

distinguishes two classes of meaningless statements.⁵ The first comprises statements that are syntactically well formed but contain meaningless words that is words for which no empirical criterion can be given (It is assumed as a corollary that no conditions of verification can be specified for propositions containing such words). Instances of meaningless expressions are 'the Absolute', 'the unconditioned', 'the truly existent', 'god', 'nothingness', the cause of the world'. Carnap used the following example to illustrate, his explanation of the meaninglessness of such expressions : suppose someone employs the expression 'babical' and affirms that we must divide all things into those that are babical and those that are not. When asked under what conditions he calls a thing babical, he replies that he cannot say, since babicality is a metaphysical property and hence no empirical criterion can be given for it. In such a case, we would say that propositions about babicality are meaningless. Everyone would agree that the word 'babical' ought not to be allowed in scientific statements.

According to Carnap, matters are no different with respect to the word 'god' Indeed, here the situation is even worse, since many metaphysicians cannot even indicate the syntactical status of the word 'god' whether, eg, it is a name of or a predicate. We can then construct the statement -- form 'X is 'god' and to give the meaning of this expression is to specify the empirical characteristics that a thing must have if it is to be called 'god', within the framework of a mythical conception of the world, in which the gods inhabit specific regions and manifest themselves in empirically ascertainable ways (by hurling thunderbolts, whipping up a storm at sea, and the like), the word 'god' would still be meaningful. In metaphysics, however, where this term is supposed to signify a non-empirical, transcendental object, it ceases to be meaningful. Carnap's conception, it should be noted, does not establish a case

for atheism. The latter doctrine consists in denying the truth of the statement 'God' exists?. But according to the empiricist criterion of meaning, what is being denied in this instance is not the truth of some proposition but that we have a proposition here at all. Hence in Carnap's view atheism is theoretically just as meaningless doctrine as theism.

The second class of meaningless utterances is made up of expressions which, although meaningful in themselves are combined in ways that violate the rules of syntax. An example is 'Caesar is a prime number' of course it is not these simple cases of meaningless combinations of words that one encounters in metaphysics. But there also exist more complicated cases that are not so obvious, and many examples of this can be cited from the history of philosophy. Usually what is involved is a wrong interpretation of some logical expression as when the expression 'nothing' is taken to designate an object. A properly constructed language would, by its syntactical rules, bar the formation of such absurdities.

Carnap cited a number of examples to show that on the basis of the criterion of meaning various questions that commonly pass as problems of epistemology could be unmarked as pseudo problems. One of these is the problem of the reality of the external world. Suppose we have two geographers, one a realist and one a solipsist. For the realist physical things are not only contents of perception, they also exist beyond perception in themselves'. For the solipsist only his own perception exist and he denies the 'real' existence of an external world. Now suppose further that the two geographers undertake to find out whether there is a certain lake in central Brazil. As empirical investigators they first of all seek to answer the question with the help of the criteria available to them, perhaps by mounting an expedition into the region in question. In the course of their study they will

arrive at a finding that both can agree upon; there will also be no disagreement with respect to the various individual empirical questions -- the geographical location and size of the lake, its height above sea level, and the like. If, however, after exhausting all available empirical scientist but as metaphysicians. Since by assumption all the empirical criteria, one of them then asserts that the lake is not only there and possess the empirically determined properties, but in addition has a reality outside of consciousness, whereas the other denies such a reality, they will no longer be speaking as empirical scientists but as metaphysicians. Since by assumption all the empirical criteria have been exhausted in questions referring to the lake, there is no further procedure by which to settle this difference of opinion. Hence neither the thesis of realism nor that of solipsism can be accepted as meaningful.

If the propositions of metaphysics are meaningless, how does it come about that time after time metaphysical systems are erected and become the object of ostensibly scientific controversies ? Carnap's answer is as follows : Man's intellectual and spiritual activity is not confined to science alone, it also encompasses art and religion metaphysical systems are vague mixtures of these three domains.

Metaphysicians have a strong need to express their attitude towards life, yet do not possess the capacity to do so in an adequate way through the creation of works of art. At the same time they also have a predilection for working with concepts and frequently seek a kind of religious edification as well. They thus resort to the language of science in which they express improperly their experience of the world. They make no contribution at all to science and only an inadequate one, as compared with the great work of art, to the feeling about life. Metaphysics is the inadequate expression of an attitude towards life

: Metaphysicians are musicians without musical talent, poets without poetic abilities.

But what about the great problems, the 'eternal' riddles', which from time imemorial have aroused the metaphysician's concern ? The answer is : As scientific problems, these 'riddles' simply do not exist. For a problem is constituted by the fact that a proposition is formulated and the task then set of determining whether that proposition is true or false. But if the proposition is devoid of meaning, then this problem bound up with it is a pseudo problem. The reason most philosophers do not grasp this point is because Theoretical problem's are conflated with the practical problems of life. We should not suppose that in answering theoretical questions we have also solved the problems of life. Just as a Euclidean plane is unboundedly infinite and yet does not by far make up the whole of Euclidean space, so too science is capable of being extended without limit and yet does not make up the whole of life. Even if all meaningful questions were answered, we would thereby have contributed very little to the mastery of life. The problems of life must be overcome in life itself outside of science. For example, there is no such thing as philosophical 'problem of death'. What scientific statements there are about death belong to science of biology and not to philosophy. If beyond this there is talk of an 'existential' problem of death, what is referred to is not a theoretical question but the fact, say, that I am deeply affected by the death of my fellow-men and the certainty of my own death. Coping with this problem is a practical matter; no scientific theory regardless of how it is constructed, can contribute anything here.

Philosophical meaninglessness : - In general, the positivists explained when they said of philosophical assertions that they were meaningless they meant

only that they lacked "cognitive meaning" . Ethical and metaphysical assertions have emotional associations, this distinguishes them from a mere jumbles of words. Such statements as "god exists" or "stealing is wrong" are on the face of it, very different from a collocation of nonsense syllables. But the fact remains, the positivists argued that such " assertions" do not convey as they purport to do, information about the existence of character of a particular kind of entity. Only science can give us that sort of information.

Not all philosophers, however, have devoted their attention to describing pseudo entities like " the Absolute" or "values" or "the external world". Many of them have been mainly concerned with empirical -- looking concepts like "fact" thing", "property", and "relation". Russell's lectures on logical atomism and wittgenstien's Tractatus are cases in point.

Wittgenstein suggested, however, that the sections in the Tactatus in which he talked about facts, or attempted to show how propositions can picture facts, must all in the end be rejected as senseless --- as attempts to say what can only be shown. For it is impossible in principle to pass beyond our language in order to discuss what our language talks about. Philosophy is the activity of clarifying it is not a theory.

Schlick carried to its extreme wittgentiens's Tractatus doctrine that philosophy is an activity. Philosophy, he suggested, consists in the deed of showing in what the meaning of a statement consists ; that is philosophy is a silent act of pointing. The ultimate meaning of a proposition cannot consists in other propositions. To clarify, therefore, we are forced in the end to pass beyond proportions to the experience in which their meaning consists. This view won few adherents. It was generally agreed that philosophers could not avoid making the sort of ontological assertions Wittgenstien made in the Tractatus and that it is altogether too paradoxical to suggest that all

propositions about, for example, the relation between facts and language are nonsensical, even if "important" nonsense. Neurath in particular, insisted that nonsense cannot be "important" cannot act as a ladder by which we arrive at understanding as Wittgenstein had said.

Problems of Positivism :- The course taken by the subsequent history of logical positivism was determined by its attempts to solve a set of problems set for it, for the most part, by its reliance on the verifiability principle. The status of that principle was by no means clear for "The meaning of a proposition is the method of its verification" is not a scientific proposition. Should it therefore be rejected as meaningless? Faced with this difficulty, the logical positivists argued that it ought to be read not as a statement but as a proposal, a recommendation that propositions should not be accepted as meaningful unless they are verifiable. But this was an uneasy conclusion. For the positivists had set out to destroy metaphysics; now it appeared that the metaphysician could escape their criticism simply by refusing to accept their recommendations.

Recognition of this difficulty led Carnap to suggest that the verifiability principle is an "explication", a contribution to the "rational reconstruction" of such concepts as metaphysics, science, and meaning, to be justified on the quasi-pragmatic grounds that if we ascribe meaning only to the verifiable we shall be able to distinguish forms of activity which are otherwise likely to be confused with one another. It is not, however, by any means clear in what way the verifiability principle can be involved against a metaphysician who takes as his point of departure that his propositions clearly have a meaning. The most that can be said is that the onus is then on the metaphysician to distinguish his propositions from others which he would certainly have to admit to be meaningless.

A second set of problems hinged on the nature of the entities to which the verifiability principle applies. Since "proposition" had ordinarily been defined as "that which can be either true or false", it seemed odd to suggest that a proposition might be meaningless. Yet it was no less odd to suggest that a sentence ---a set of words -- could be verified, even if there was no doubt that it could be meaningless. Ayer suggested as an alternative the word "statements", and he wrote as if the problems were a purely terminological one. But it is a serious questions whether "true", "false", and "meaningless" are alternative descriptions of the same kind of occurrence or whether to describe a sentence as "meaningless" is not tantamount to denying that only statement has been made, any proposition, put forward. This would have the consequence that we can consider whether a statement is verifiable only after we have settled the question of the meaning of the sentence used to make the statement.

The logical positivists themselves were much more concerned about the fact that the verifiability principle threatened to destroy not only metaphysics but also science. Whereas Mach had been happy to purge the sciences, the logical positivists ordinarily took for granted the substantial truth of contemporary science. Thus it was a matter of vital concern to them when it became apparent that the verifiability principle would rule out as meaningless all scientific laws.

For such laws are, by the nature of the case, not conclusively verifiable; there is no set of experience such that having these experience is equivalent to the truth of a scientific law. Following Ramsey, Schlick suggested that laws should be regarded not as statements but as rules permitting us to pass from one singular statement to another singular statement. In Ryle's phrase they are "inference licenses". Neurath and Carnap objected to this on the ground that

scientific laws are used in science as statements, not as rules. For example, attempts are made to falsify them, and it is absurd to speak of "falsifying a rule". Furthermore, Carnap pointed out, ordinary singular statements are in exactly the same position as laws of nature; there is no set of experiences such that if I have these experiences there must be, for example, a table in the room.

For these and comparable reasons "verifiability" was gradually replaced by "confirmability" or by the rather stronger notion of "testability". Whereas at first the meaning of a proposition had been identified with the experiences which we would have to have in order to know that the proposition is true, now this was reduced to the much weaker thesis, that a proposition has a meaning only if it is possible to confirm it, that is, to derive true propositions from it. Carnap, in accordance with his "principle of tolerance", was prepared to admit that a language might be constructed in which only verifiable propositions would count as meaningful. He was content to point out that such a language would be less useful for science than a language which admits general laws. But most positivists interested as they were in the actual structure of science, simply replaced the verifiability principle by a confirmability principle.

If, however, the original principle proved to be too strong, the new principle threatened to be too weak. For on the face of it, the new principle admitted meaningful such metaphysical propositions as "Either it is raining or the Absolute is not perfect". Whether the confirmability principle can so be restated as to act as a method of distinguishing between metaphysical statements as meaningless - and scientific statements as meaningful remains a question of controversy.

Materialism :- Materialism is the name given to a family of doctrines concerning the nature of the world which give to matter a primary position and accord to mind (or spirit) a secondary dependent reality or even none at all. Extreme materialism asserts that the real world consists of material things, varying in their states and relations, and nothing else.

Philosophers have differed among themselves over what constitutes a body, over what states and relationships a body may enter, and over whether every material thing is a body. Thus, the cardinal tenet of materialism, "Everything that is, is material", covers several different claims.

To accommodate these differences, a material thing can be defined as being made up of parts possessing many physical properties and no other properties. The physical properties are position in space and time, size, shape, duration, mass, velocity, solidity, inertial, electric charge, spin, rigidity, temperature, hardness, and the like. This list is open ended. It is composed of properties that are the object of the science of physics. The questions "what counts as a physical property?" and "what counts as possession of most of the physical properties?" have no determinate answers. In consequence, there are also no determinate answers for the questions "what is a material thing?" and "what does materialism claim?"

Consciousness, purposiveness, aspiration, desire, and the ability to perceive are not considered properties of matter. Materialism differs from panpsychism, the doctrine that every bit of matter is also at least partly spiritual, in that it denies these psychological properties to the world's basic entities. Materialists add that there is no second class of fundamental beings possessing such psychological properties and no others. Therefore, there are no incorporeal soul or spirits, no spiritual principalities or powers, no angels or devils nor demiurges and no gods (if these are conceived as immaterial

entites). Hence, nothing that happens can be attributed to the action of such beings. The second major tenet of materialism is, accordingly, "Everything that can be explained can be explained on the basis of laws involving only the antecedent physical conditions". The differences among materialist over the type of effect material things can have on one another make the second tenet another slogan covering a variety of particular doctrines. Materialists have traditionally been determinists, adding the claim "There is a cause for every event". This claim however, is not strictly entailed by materialism, recently, it has apparently been weakened by the development of quantum theory, and some contemporary materialists are opponents of determinism.

The enduring appeal of materialism arises from its alliance with those sciences which have contributed most to our understanding of the world we live in. Investigations in the physical sciences have a materialist methodology, that is, they attempt to explain a class of phenomena by appeal to physical conditions alone. The claim of materialists is that there is no subject matter which cannot be adequately treated with a materialist methodology. This claim cannot be established by any scientific investigation; it can be established, if at all, only by critical reflection on the whole range of human thought and experience. Early philosophers proceeded dogmatically, aiming to prove the material nature of the world by mere reflection on what must be. Contemporary materialists are much more modest, offering the claim as a speculative but reasonable empirical generalization. Men have continued to embrace materialism in the face of the difficulties with which it is beset because it offers a comprehensive, unified account of the nature of reality which is economical, intelligible, and consistent with the most successful of the sciences.

History of materialism :-

Classical period :- Materialism has been a theme in western speculative thought from the earliest recorded period to the present day. Ionian philosophers in the tradition of Thales (sixth century B.C.) attempted to account for the origin and present state of the world by appeal to changes in the state of fundamental substances. Parmenides of Elea (fifth century B.C.) Vigorously defened not only a monism of substances but also a monism of entities, maintaining that the world is one, uniform, eternal, homogeneous, indivisible, indestructible, and without any interior void.

These two threads of thought are combined in the true materialism of Leucippus and his pupil democritus; who flourished at Abdera in the late fifth century B.C. between them they worked at the first clear conception of matter, the first clear restrictions on the kind of natural interactions in which material particles could Figure, and the first clear program of explanation by appeal to these material interactions alone. The "Great Diakosmos", a lost work written by one or the other (or both), expounded their position. Their basic idea was that the fundamental stuff of just one kind (matter) and that the fundamental entities were material atoms having the characteristics (except uniqueness) of parmenides one and moving in an exterior void.

In so far as it can be reconstructed, their doctrine embraced the following thesis.

- (1) Nothing exists but atoms and empty space.
- (2) Nothing happens by chance (for no reason at all); everything occurs for a reason and of necessity this necessity is natural and mechanical; it excludes teleological necessitation.
- (3) Nothing can arise out of nothing, nothing that is can be destroyed.
- (4) All changes are new combinations or separations of atoms.

- (5) The atoms are infinite in number and endlessly varied in form. They are all of the same stuff. They act on one another only by pressure or collision.
- (6) The variety of things is a consequence of the variety in number, size, shape and arrangement of the atoms which compose them.
- (7) The atoms have been in confused random motion from all eternity. This is their natural state and requires no explanation. (Some scholars dispute the attribution of random motion of the atoms and credit the "great Diakosmos" with the epicurean doctrine of an eternal fall through infinite space.
- (8) The basic mechanism whereby bodies are formed from atoms is the collision of two atoms, setting up a vortex in the vortex motion is communicated from the periphery toward the center.

In consequence, heavy atoms move to the center, light ones to the periphery. The vortex continually embraces new atoms which come near it in their random motion, and it thus begins a world.

According to this position, a mechanical account must be given of human sensation. The Leucippus -- Democritus account seems to have been ingenious, speculative, but false. Objects perceptible by sight, hearing, or smell give off effluences, or images, composed of fine, smooth atoms. There are channels in the eyes, ears, and nose along which these effluent atoms pass to collide with the atoms of the soul. Thus, sensation occurs. Differences of color or of pitch are due to varying smoothness or roughness of the incoming image atoms. In touch and taste the size and shape of the atoms on the surface of the perceived object act on soul atoms in the relevant organs.

Sensory qualities (for example, sweetness, bitterness, temperate, color) are thus not qualities of the object perceived; which is a collection of atoms, but the effects of that collection of atoms on us. Here is an early appearance

of the distinction between primary and secondary qualities, a distinction every subsequent materialist has also found it necessary to make.

Empedocles (fifth century B.C.) founded a medical school in Acrogas (Agrigento) in Sicily. His aim was to account, in a naturalistic manner, for the special features of this world, particularly for the organized matter of living creatures. The first appearance of the famous four elements -- earth, air, fire, and water --- is in his theory. Empedocles seems to have believed that each of these elements consisted of a different type of atom. The creation and dissolution of the microscopic objects of this world is brought about by the combination and separation of these atoms by two fundamental forces, love and hate, or harmony and discord.

Under the influence of love and hate the world goes through an endless cycle from complete random separation of elements (the triumph of hate), through gradually increasing order, to a complete, calm, spherical, harmonious union (the triumph of love). Hate then begins to exist itself once more. Disintegration sets in, and ultimately the world returns to the state of complete separation of elements. The present state of the world lies between these two extremes. The existence of planetary systems and the origin of animals are thus explained as the influence of love.

Empedocles can be considered a true materialist only if love and hate are either inherent forces in the elemental atoms or themselves material elements with a cementing or corrosive effect on combinations of the other elements; however, he probably thought of them as blind, powerful gods. The rest of his systems is similarly ambiguous on the one hand, he believed in the transmigration of souls and adhered to some kind of orphic mystery religion; on the other, he gave a mechanical account of sensation, held that the soul was composed of fiery atoms, and said that the blood around the heart is the

thought of men. Empedocle's thought thus perpetuated the materialist tradition but not in a regular or consistent form.

The misinterpretation of the ethics of epicurus (342-270 B.C.) has made him the most famous of classical materialists. In his middle age epicurus came to Athens and founded a school where materialism was taught as the sole foundation of a good life, a life calm, serene and free from superstition.

He adopted the position of the "Great Diakosmos" but gave a modified account of the origin of worlds. There are an infinite number of atoms falling through an infinite space. In one construction of the epicurean system the heavier, faster atoms occasionally strike the lighter. Slower ones obliquely, giving a slight lateral velocity. In another construction all atoms fall at uniform velocity, and the original deviations from parallel vertical motion are left quite unexplained.

However caused the original lateral deviations result in more collisions and deviations and the establishment of vortices. From these vortices ordered arrangements of atoms arise. The number of atoms and the time available are both quite unlimited, so every possible arrangement of atoms must occur at some time or another. This world, with its marvelously organised living bodies, is thus just one of the infinite, inevitable arrangements into which the indestructible atoms must fall.

The only Roman author of note in the tradition of materialism is Lucretius (born 99B.C.), whose long didactic poem De Rerum Nature gives imaginative sparkle to the metaphysics of epicurus. Lucretius adopted the second account of the fall of atoms through the void and appealed to some form of voluntary action to explain the original deviations from vertical descent. He thus introduced a nonmechanical source of motion, inconsistent with the remainder of his system. Like epicurus, Lucretius was motivated by a wish to

free men from the burdens of religious fear. He argued passionately, and at length against the existence of any spiritual soul and for the mortality of man. These beliefs have been explicit features of materialism ever since.

Seventeenth century :- From the close of the classical period until the Renaissance the church and Aristotle so dominated western speculation that materialist theories virtually lapsed. The revival of materialism attributable to the work of two seventeenth century philosophers Gassendi and Hobbes, who crystallized the naturalistic and skeptical movements of thought when accompanied the rediscovery of antiquity and the rise of natural science. Their most important forerunners were probably Telesio, Campanella, and Cyrano de Bergerac, all of whom attempted to combine materialistic views in physics with a sensationalist psychology.

Pierre Gassendi (1592-1655), who in the last part of his life taught astronomy at the Royal college in Paris rejected the official Aristotelian philosophy of his time and set about the rehabilitation of Epicureanism. To bring the Epicurean system into closer conformity with Christian doctrine, he claimed that the atoms are not eternal but created. They are finite, not infinite, in number and are organized in our particular world by a providential determination of initial conditions.

Gassendi's materialism extended over physics and psychology, undertaking to account for all inanimate changes and for sensation on a materialist basis. He treated the coming into being of particular "things as the accumulation of matter about a seed atom. But his metaphysics was not, strictly speaking, materialistic, for outside the experienced world Gassendi admitted a creative and providential God and an immaterial an immortal intellect in man distinct from his corporeal soul. There are even some lapses in the

physics, too, for gassendi spoke of gravitation as some kind of movement for self -- preservation and allowed that growth from seed atoms may be controlled by formative principles other than the natural motions of atoms.

Thomas Hobbes (1588-1679) was much more consistent and uncompromising. In 1629 he discovered euclidean geometry and was captivated by its method. During the years that followed he strove to work out a rational philosophy of nature on the euclidean model. Hobbes's aim was to discover by cunning analyses of experience fundamental principles expressing the true nature of everything. The truth of these principles would be manifest to right reason and could thus serve as axioms from which a comprehensive theory of the nature of the world could be deductively derived.

The resulting system is almost pure materialism. Hobbes hoped to use the new physics as the basis of a final, complete account of reality. From definitions of space and motion he derived the laws of uniform motion. From these, together with a motion of the interaction of bodies, he hoped to proceed to an account of change. Thence to an account of sensible change, thence to a theory of the senses and appetites of men, and finally to his notorious civil philosophy.

No part of the universe is not a body, said Hobbes, and no part of the universe contains no body. Hobbes was a plenist, holding all space to be filled by an intangible material ether if, nothing else. The doctrine followed directly from his definition of a body as anything existing independently of our thought and having volume. Thus Hobbes considered god to be a corporeal spirit difficult to distinguish from that incarnate space, the pervasive ether.

All change in the universe is motion of bodies, and nothing can cause a motion but contact with another moving body. The substance of anything is body, and "incorporeal substance" is therefore a contradiction in terms.

Hobbes thereby disposed of angels, the soul, and the god of theology. Hobbes departed from strict materialism in his introduction of "conatus" and "impetus" (which are not physical properties) into his account of the initiation of motion and measurement of acceleration. Conatus is also appealed to Hobbes account of human sensation and action. Sensations are motions in a man's body, and changes of sensation are changes of that motion. Sensory qualities are really within the perceiver, but by conatus "phantasm" is projected from the observer onto the observed.

Hobbes was the first to take seriously the problems which language, thought, and logic pose for materialism. He developed a nationalist theory of language and took the subject matter of thought and inference to be phantasms of sense or abstractions from these phantasms. He held for example, that to remember is to perceive and has perceived. But Hobbes did not make clear just what contact Mechanism is at work in mental operations or whether the phantasms involved are genuinely corporeal. Thus in spite of Hobbes's best effort it is doubtful that he developed a fully consistent materialism.

The influence of Gassendi and Hobbes was diminished by the prestige of their brilliant contemporary, Rene Descartes (1596-1650), who accepted a materialist and mechanical account of the inanimate world and the brute creation but insisted that men had immaterial, immortal spirits whose essential nature lay in conscious thought undetermined by causal processes. According to Descartes, there are in the world two quite different sorts of things, extended (material) substances and thinking (spiritual) substances, which are mysteriously antithetical in the case of mankind. He thus crystallized the tradition of dualism (the doctrine that there are just two fundamentally different kinds of things), which was until recently materialism's chief rival.

Eighteenth Century :- In Epicurus and Lucretius one motive for working out a materialist philosophy was oppositional to religious terror. With Hobbes, and again in eighteenth century France, it was opposition to religious oppression. Further, rapid growth of physiological knowledge on to religion oppression. Further, rapid growth of physiological knowledge gave rise to the hope that a complete doctrine of man in purely physiological terms was possible and so generated a medical materialism which made the path of the metaphysicians smoother. Ever since the time of Democritus Materialist had held that the soul consists of fine particules within a man. In the course of the eighteenth century this suggestion was taken up and amplified, and some attempt was made to give it an experimental basis.

An anonymous manuscript, the Arne materielle, written between 1692 and 1704. contains many ingenious explanations of mental function on Democritean lines. Pleasure and pain consists, respectively, of the flow of finer or coarser particles through the channels of the brain. The passions are a matter of the temperature of the heart. Reason consists in the ordering of the soul's fine particles, and the effect of wine in its course through the body is to dislodge some of these fine particles from their proper places. The manuscript is panpsychic in its expression, crediting the atoms with a rudimentary consciousness and will, but it is materialist in substance, for these qualities are not credited with causative functions. Its doctrines were purely hypothetical and as we now know, false. The Arne materielle had successors in Dr. Maubec's principe physiques de la raison itless passions de l'homme (Paris, 1709), which again gave a materialist vision of man a panpsychic dress and opposed descartes "Thinking substance", and in Denis director's many unsystematic writings, which took a progressively more materialistic turn, Diderot's Le Rive de D' Alembert is a striking hypothetical account of heredity,

growth, and the simpler forms of animal behaviour in terms of interior motions of living bodies.

The most famous medical materialist is Julien de la Mettrie (1709-1751), a doctor with a philosophical bent whose radical views obliged him to leave a fashionable practice in Paris and live in Holland and Russia. In *L'Homme machine* (Leiden, 1748) he presented a view of man as a self-moving machine. After criticizing all views of the soul as spiritual, La Mettrie proceeded to review all the common-sense evidence for the physical nature of mental activity. He cited the effects of bodily needs, aging, and sleep; he pointed to the analogy of the human body to much lower forms. Anticipating Pavlov, he spoke of the mechanical basis of speech and of the possibilities of educating deaf-mutes and anthropoid apes. He explained learning how to perceive and how to make moral judgements by appeal to modifications of the brain. Human action is accounted for by the then new doctrine of the stimulus irritability of muscle's La Mettrie embarrassed those who held that the soul is a spiritual unity by observing the continuing function of organs removed from bodies, the muscular activity of dead or decapitated animals, and the ability of a bisected polyp to grow into complete ones. He explained conscious sensation and the mental capacities of which we are introspectively aware by means of a magic - lantern analogy, but this was unsatisfactory, for the status of the images was not made clear. The details of La Mettrie's physiology, depending as they do on supposed movements of nervous filaments are false. However, his program of seeking in neural changes the explanation of mental activity has endured and his claim that appeals to the soul can furnish only pseudo explanations has gained wide support.

Jean Cabanis (1757-1808), a French doctor, continued this line of thought and in 1802 published Rapports du physique et du moral de L'homme,

the most notable innovation of which was to treat the brain as analogous with the digestive system, making sensory impressions its aliments and thoughts its product. The great metaphysical materialist of the period is Paul Heinrich Dietrich d'Holbach (1723-1789), a German nobleman who passed his life in Paris. His work the systems de la nature was published under a false name, "Mirabaud," at "London" (Amsterdam) in 1770. The "Bible of all materialism" is speculative philosophy in the grand style, in it the antireligious motive is again uppermost. Holbach maintained that nothing is outside nature. Nature is an interrupted and causally determined succession of arrangements of matter in motion. Matter has always existed and always been in motion and different worlds are formed from different distributions of matter and motion. Matter is of four basic types (earth, air, fire, and water), and changes in their proportions are responsible for all changes other than spatio temporal ones.

Mechanical causes of the impact type are the only intelligible ones hence the only real ones. Since man is in nature and part of nature, all human actions spring from natural causes. Man's intellectual faculties, thoughts, passions, and will can all be identified with motion hidden within him. In action outward motions are acquired from these internal ones in ways we do not yet understand. Holbach based the intellectual faculties on feeling and treated feeling as a consequence of certain arrangements of matter. Introspected changes are all changes in our internal material state. Thus, in remembering, we renew in ourselves a previous modification. He treated personal characteristics and temperament in terms of a man's internal structure and interpreted so-called free action not as motiveless action (an absurdity) but as action springing from an ultimately unchosen modification, of the brain. Holbach's theory of mind is also interesting because in dealing with wit and genius, it suggested the first behavioural analyses of mental concepts. Not

surprisingly, he held the soul to be mortal. The purity of Holbach's materialism is marred only by his admission of realtions of sympathy, and affinity among material particles, in addition to the primary qualities, gravity and inert force.

The revolution in chemistry which was effected by Joseph Priestly in England and Antoine -- Laurent Lavoisier in France in the 1770's and 1780's was of importance for the later development of materialism, for it established chemistry as a strictly physical science all of whose explanations appeal only to material substances and their natural interactions. Such a chemistry has since been extended to cover the process of life, and the case for materialism has thereby been profoundly strengthened. Priestly is a curious figure in the history of materialism. A thorough going determinist and materialist (he supported Roger Boscovich's concept of matter as points of force), Priestley nevertheless vigorously maintained his belief in christianity. His religious views were far from orthodox, but he did insist that the existence of God and the resurrection of the body are not incompatible with a materialist and determinist position.

Nineteenth century :- Ludwig Buchner, a minor figure, deserves mention as the first to claim explicitly that materialism is a generalization from a posterior discoveries. In Kraftundt staff (1855) he claims that we have discovered (not proved a priori) that there is no force without matter and no matter without force.

There was during this period a continuation of inquiry and speculation on the physiological bases of mental function. Jacob Moleschott, Karl Vogt, and Emil Du Bois Reymond proceeded with the investigation of physiological processes along physicochemical lines. The most important development were scientific ones which all undermined to the barrier between physical systems and living organisms and thus softened the natural resistences to materialistic

theses. In 1828 the synthesis of urea was achieved, and this refuted the idea that biochemistry was in some way special and distinct from chemistry. In 1847, Hermann Helmholtz established the conservation of energy in organic systems, making still less plausible any claims that living and nonliving systems could not possibly be comprehended in one theory. In 1859, Charles Darwin published his origin of species, in 1871 his Descent of Man. T.H. Huxley had produced man's place in Nature in 1863. These three works at last provided a plausible, empirically grounded case for two of the main planks of materialism the claim that the organization of living things into forms admirably suited for survival and reproduction admits of explanation without a appeal to Immanent or transcendent purposes and the claim that man is a part and product of the natural world. Since then biologists physiologists, and pathologists have increasingly taken the truth of medical materialism for granted, couching their explanations in physicochemical terms without questioning the propriety or completeness of successful explanations in this form.

Contemporary materialism :- The triumphant progress in the twentieth century of a materialistic biology and biochemistry has almost completely eliminated vitalist notions and supernatural views of life. The situation of earlier ages has been reversed; it now seems implausible to maintain that the vital functions of living organisms are different in kind from chemical (ultimately, physical) processes. In the attempt to demonstrate that something either than matter exists, it is on mind, rather than life, that immaterialists now rely.

But the rise of Cyberhelies (the abstract theory of machines) and its applications in computing machinery and objects which simulate some of the performances of living things are beginning to threaten the idea of a special status for mental activity. The gathering and interpretation of information, the

employment of stored information, successful and spectacular problem solving, even analogues of fatigue, overload, and confusion. Hitherto all monopolies of the animate, are now displayed by organizations of matter whose operations can be explained in terms of physical properties alone. And on the other hand, experimental study of the nervous systems of animals and men is showing in ever increasing detail, how artificially induced changes in the electrochemical state of the nervous system issue in changes in the subjects "mental" activity. Displays of emotion; performance in perception and recall and anxiety and tension are being tied down to brain function in this way. Furthermore, many psychologists of this century have become disheartened by the difficulties of investigating hypothetical mental states and have turned to the study of behavior, relying on publicly observable and physical phenomena in their analyses and explanations of human activities. Indeed, there have been three distinct movements of a materialistic stamp in recent philosophizing about minds.

Some logical positivists, led by Rudolf Carnap and Otto Neurath, espoused an epistemic materialism. They held that statements about minds incontestably meant something. The meaning of any statement consisted in those directly testable statements deducible from it (protocol sentences). The protocol sentences must be intersubjectively testable and the only intersubjectively testable, sentences refer to physical properties of physical entities. Hence those meaningful statements about minds which do not deal with hypothetical constructs must refer to such physical properties and entities, even though we cannot yet give their physical translations. The beginnings of translation into behaviourist terms was offered for some psychological expressions -- for example "is happy" -- by directing attention to the way in which the use of such expressions is taught by pointing to people behaving happily. In this the positivists anticipated a favourite strategy of

wittgenstein and moved away from complete dependence on their general doctrines of meaning and verification.

The analytic behaviourists, in particular Gilbert Ryle and his followers offered to show that attribution of intention and intelligence, choice, desire, excitement, fear, and so on all are to be understood as attributions of a disposition to behave in a characteristic manner in suitable circumstances, dispositions are held by most thinkers to issue from some standing or recurrent, underlying state, and with these behaviourists the state was assumed to be a state of the body their manifest intention to exercise the spiritual soul places them in the materialist tradition.

Ludwig' Wittgenstein although he disdained the title behaviorist, belongs to the same group. The conditions upon which he insisted in any acceptable analysis of a mental concept require that descriptions of a man's state of mind must make reference only to publicly detectable features of the organism and its behaviour. His many subtle discussions of mental concepts are all attempts to identify that pattern of behaviour whose display would constitute being in a given state of mind. To attribute that state of mind to a man is to describe him as disposed to display the relevant pattern of behaviour. Talk of states and processes of a spiritual soul is according to wittgenstein, not merely false, it is unintelligible. On two key points the analytic behaviorists have not been entirely convincing. First, if mental states are names of particular patterns of behaviour, they cannot cause the behaviour in question; It cannot be said that a man's anger made him shout or that his pride made him stubborn. It is hard to believe expressions like these must be illegitimate. Second, the occurrences of some inner episodes --- after images, pains, flashes of illumination -- resist any plausible dispositional analysis. The mind does seem to be a collection of states, items, or events in addition to a syndrome of dispositions.

The third group of contemporary materialists embraces a theory of mind known as central state physicalism. They held that the mental states, items, or events which cannot be understood dispositionally turn out, as a matter of fact, to be states of the central nervous system presented to itself in an opaque or covert fashion. Some like Paul K. Feyerabend and Hilary Putnam, claim only that this is the most promising line investigation may now take. Others, like U.T. Place, J.J.C. Smart and Herbert Feigl, go further and maintain that any alternative view is already frankly incredible. David M. Armstrong has extended the range of mental concepts which are given a central state analysis to include some not strictly tied to introspection, such as intelligence, the emotions, and the will. He holds that the mind is the cause of the distinctive behaviour of higher animals, and in his view this cause proves to be a neurological one. The argumentation surrounding central state physicalism is not yet concluded. The fate of the doctrine seems to hang on its ability to deal adequately with the peculiarities of introspective knowledge and to clarify the identification of mental with neural states and on the continuing success of physiologists in their efforts to discover neural changes corresponding to every change in consciousness.

Objections to Materialism :-

Materialists doctrines have never lacked critics and detractors, for they require that some of mankind's more cherished beliefs and hopes be abandoned. Of the many possible lines of attack, let us review the more important.

Theology :- Materialist theses contradict a large number of theological assertions. In a materialist theory there are no necessary beings and so supernatural interventions in the course of nature. In order to defend

materialism on these points one must first show that there is no valid deductive argument for the existence of a necessary being. No mean task this, but one many philosophers now think can be completed. Next, one must deny to religious experience any supernatural significance. Adopting the critique made by skeptical empiricists, one can argue that religious experience presents no good and sufficient reasons for abandoning natural modes of explanation in particular none for abandoning them in favor of hypotheses which face peculiar difficulties when it comes to putting them to the test. Furthermore, the materialist position is strengthened by the promise of continued success in finding concrete natural explanations of religious experience through developments in physiology and psychology.

If these positions can be established, claims to the existence of god and the occurrence of miracles are established neither by argument nor in experience and so must be considered as interpretative hypotheses laid upon the experienced world. The materialist must again urge that in framing hypothesis, as in seeking explanations, there is no sufficient reason for deserting the natural for the supernatural. In such circumstances as these considerations of parsimony exclude all supernatural entities from any reasonable Ontology. Materialists must show there is no reason to believe in survival of bodily death or in reincarnation. Plausible recent arguments have claimed that both doctrines are logically incoherent. These arguments do not impugn the possibility of resurrection, but that is compatible with materialism.

Physics : - Materialism has in the past been assailed for leaving the origin persistence, and motion of the fundamental particles unexplained, for failing to make intelligible that each fundamental interaction has had one result and not another, and for failing to admit the necessity in causal sequences. The reply,

now very widely accepted, is that all claims of explanation must eventually come to a terminus and that to seek a terminus beyond contingent truths concerning the items and processes of the world is to go hunting a mare's nest.

Psychology :- almost every distinctively human capacity has been pointed to as showing that a man is more than an assemblage of atoms. In understanding men, we cannot do without the concepts of perception, belief, and intelligence; action, decision, and choice motive drive, and need; feeling, emotion, and mood, temperament and character. We will also need to treat of consciousness and self-consciousness. The task of the materialist is to explain how merely material structures could qualify for description under all these categories. Two basic approaches, the behavioural and the topic neutral, has been adopted in attempting this. Contemporary materialists differ on which strategy is appropriate in particular cases, but they agree that one or the other is appropriate for every aspect of the mind.

Behavioural strategy :- The attribution of some of the mental predicates (for example, intelligence, equanimity, or ambition) to an organism is claimed to be in reality the attribution of a disposition to behave in a characteristic way under suitable conditions. The form the behaviour, takes the conditions under which it is manifest, and the organism which behaves are all specifiable in terms with no immaterialist implication. Also the remarkable subtlety and complexity of human behaviour no longer appear to have strong immaterialist implications, for now the development of machines with the ability to duplicate it seems possible. In particular, the self-monitoring features of conscious behaviour can be displayed by material systems.

Topic-neutral strategy :- For those mental descriptions which resist behavioural treatment (being in pain, seeing a color, feeling depressed) a different claim is made. It is held that to apply such descriptions is to assert that there is within the organism some state which typically arises from a given stimulus and/or typically issues in a characteristic kind of behaviour. Mental predicates of this kind have been called topic-neutral because they do not specify as material or immaterial the nature of the inner state whose causes and /or effects we encounter. To say a man is in pain, the argument runs, does not of itself imply that he has or has not a soul. It implies that he is in a certain state which arises from the state of his sensory system and issues in certain behaviour patterns. When we explore this state we find reason to believe that it is a state of the organism's central nervous system. If inner states admit of the topic neutral treatment, they, too have no immaterialist implications.

Inner states : - The hardest part of the materialist programme is to deal with introspective awareness. Consider sensations, a pain has a definite and distasteful felt quality, a color a definite presence to its observer. Neither colors nor pains present themselves in introspection as states of the person typically connected with stimuli and/or responses. The most promising materialist suggestion is that the intrinsic qualities of sensations are in a reality purely schematic and enable us only to distinguish one sensation from another. The sameness or difference of inner states but not their nature is given introspectively. If this is so, sensations can very well be states of the central nervous system typically connected with stimulus and/or response, even though we are not aware of this.

This doctrine is strange but by no means clearly false. Inner states notoriously elude direct characterization. Our attempts to describe them proceed by comparison with other sensations directly or ultimately picked out by reference to their stimulus and/or response. For example we describe smells as of cinnamon or of rotten eggs (stimulus) and as appetising or nauseating (response); we speak of pains as jabbing, burning like "pins and needles" as crippling or distracting. Feelings of anger shame, pride and fear are all described in terms of body temperature. Many common descriptions of our inner states are in terms of the behaviour they dispose us to display. "I could have jumped over the moon", "i could have bitten off my tongue". "You could have knocked me down with a feather", " I was ready to give up". All these ways of talking fit the suggested account of inner states.

A somewhat parallel claim is made concerning inner awareness of mental states which are not sensations. For example, nonsensory knowledge of my intention to go swimming is held to be direct knowledge of the causal properties of some inner state. It is true that an intention has no physical properties, but the causal character of anything whatsoever has no physical properties. Thus the inner state known when I know of my intention to go swimming may be a state of the body. If the behavioural and topic-neutral approaches to mental concepts are jointly adequate, it does not follow that men are exclusively material, only that they may be. To establish that men are material, it would have to be shown by empirical investigation that there were bodily states with the right physicochemical causal properties to account for all human capacities.

Parapsychology :- Paranormal phenomena are a serious embarrassment to materialism; the evidence amassed in the investigation of S.G. Soal and L.L.

Vasiliev, to name just two, cannot reasonably be ignored. At some times some people have access to information in ways not explicable within current scientific theory. A fortiori, these phenomena are not explicable within physics alone. It is not merely that the faculties dubbed "telepathy" or "clairvoyance" cannot yet be accommodated but that they seem to be positively excluded by our present understanding of the physical world. The same can be said of the very striking but less well controlled facts of trance mediums.

Although paranormal phenomena cannot be discounted, the spiritual constructions commonly put on them are altogether too hasty. Some revisions of scientific theory will be necessary, but it is not at all clear that we must credit the paranormally gifted with extraordinary souls. Capable of magic performances which "explain" this or that striking event.

There are two other avenues open. The first takes the paranormal phenomena to be indicative of some property of the fundamental physical particles undetected or even undetectable in studies of simpler systems that the human being unhappily, a postulated property of particles which shows itself only in the cognitive functions of immensely complex organisms is both implausible and apparently incapable of independent investigation. And to claim that such a property is a physical property, although it plays no part in any normal physical explanations, is to win a materialist victory by a hollow verbal maneuver.

The second line of approach, to consider paranormal phenomena to be consequences of the complexity of the physical structures involved, is more promising. To admit that paranormal capacities cannot be predicted to arise from concatenation of physical particles is not to admit that ghosts come into play at a certain level of complexity. For instance, even before we could explain the macroscopic phenomena of ferromagnetism as arising from

juxtaposition of molecular magnets, it was not reasonable to suppose that "immaterial magnetism" was at work. The suggestion that "resonances" among complex systems could explain extrasensory perception has been made by Ninian Marshal. His speculations are most plausible in the cases of information passing from mind to mind without intermediary. However, clairvoyant successes (guessing what color light is on inside a box when nobody knows) and trance medium reports of the dead involve action at a distance without medium in both temporal directions. It is not going to be easy to develop the second line of approach in a convincing fashion.

There is no reason to think that these emergent capacities of complex systems will ever be predictable from knowledge of their physical elements. This does not mean that they are not physical emergences or that we could never learn that they were. To deviate into science fiction, we could reasonably claim to know that they were merely physical emergences if it were possible to assemble an electronic machine which demonstrated paranormal powers or to synthesize an organism which grew into something which could demonstrate them. Until then, materialism remains improven.

Philosophy : - Forms of materialism that offer knowledge immune from experiential refutation or knowledge of a reality beyond the reach of empirical investigation are vulnerable to empiricist and Kantian, criticisms. But the physicalism which treats its doctrines as contingently true generalizations avoids the charge of purveying degenerate or transcendent hypotheses. There are several other objections of a logical kind which must be faced.

Argument from self - destruction :- A popular argument for disposing with materialism is this :

All doctrines concerning the nature of the world are arrived at by inference. Thus a fortiori, materialism is so reached. But if materialism is true, inference is a causally determined process in people's brains, and not a rational process. Materialism is therefore a doctrine arrived at by non rational causal processes. Thus if it is true, there can be no reason to think it so. This argument is invalid that a given process of inferring was determined by the structure of a man's brain does not entail that it was an unreasonable inference. Nor does it entail that the man could have no ground for thinking it reasonable. There is nothing in materialism to prevent our learning which inference patterns lead from true premises to largely true conclusions, applying this knowledge to the arguments for materialism, and reasonably (albeit determinedly) concluding that materialism is a worthy position.

Physical and mental properties : - C.D. Broad in the mind and its place in Nature formulates many people's reaction to the suggestion that mental events are physical events in a body. About molecular movements is perfectly reasonable to raise the question "Is it swift or slow, straight or circular and so on?" About the awareness, of a red patch it is nonsensical to ask whether it is a swift or slow awareness, a straight or circular awareness and so on. Conversely, it is reasonable to ask about an awareness of a red patch whether it is a clear or a confused awareness; but it is nonsense to ask of a molecular movement whether it is a clear or a confused movement. Thus the attempt to argue that "being a sensation of so and so" and "being a bit of bodily behaviour of such and such a kind " are just two names for the same characteristic is evidently hopeless.

Indeed, this attempt is hopeless, but it is not one a materialist must make. The two "names" that materialist claim to have the same thing are

"subject S having sensation P" and subject S undergoing bodily changes Q". As for P, the sensation S has, this is dealt with by a topic neutral strategy and held to be the convert presentation of bodily changes Q to the person S, who is having the sensation.

Knowledge of physical and mental states :- Another common argument against materialism points to the fact that although the common man can recognize thoughts and feelings and knows what anger, fear, and his intention to go swimming are, he is completely ignorant of the processes in his central nervous system, and so the mental occurrences cannot be identified with any such physical events. Friedrich Paulsen, for example, argued to this effect in chapter-1 of his introduction to philosophy.

Generalized nature of reason :- Keith Gunderson has recently revived an argument of Descartes's to the effect that men are not machines, even Cybernetic machines and therefore not merely material. In all known machines the matching or surpassing of a human intellectual ability is a specific outcome of a specific structure. Each skill is a skill at some special task and no other. But in human beings, intellectual skills are generalized and come in clusters, reasons is a tool for all circumstances. Thus, it is not proven that the man and the machine have a like given skill in consequence of a like inner structure. On the contrary, the reasonable conclusion is that the machine's skill and the man's skill are to be explained in different ways -- That is, man is not any kind of machine. One reply available to materialists is that this argument is premature. The simulation of human performance by material assemblages is in its infancy. There seems no reason to suppose a machine with generalized skills impossible. Another line of reply is also open. To show human abilities

can be matched by a machine is sufficient to establish that men need not be credited with an immaterial side to their nature, but it is not necessary. There may be some irreducible biological laws which distinguish living things from artifacts. But, as was suggested for paranormal phenomena, these could be treated as emergent properties of special kinds of complex material structures and not as the operations of spiritual elements in those structures.

Intentionality :- The argument from intentionality can be stated in this form. A peculiarity of many mental states is their essential connection with an object. In intending, I must intend something, and in hoping, I must hope for something. The thing intended or the thing hoped may or may not have any real existence. Thus, materialism cannot be true. The materialist reply to this argument is that hopes or intentions are specified by reference to that which would fulfill them or that which would constitute their exercise. It is important to note that they are specified by way of that which would fulfill them, that is, they are specified by way of things, conditionally claimed to exist. That which perhaps exists does not necessarily exist, but this does not at all mean that if it does, it is something other than a physical thing.

Logical connections :- There is also the argument from logical connections between different items : Where an intention and the thing intended exist. They are two different things. Nevertheless, they are logically connected. But any two different physical items are only contingently connected. Hence, mental states cannot be physical items. Materialists urge in rebuttal that this is a consequence of the peculiarly causal character of mental states. Often the only way of identifying a mental state is by reference to the behaviour which it characteristically evokes. If a physical item A is specified as that which evokes

B, then although A is in its own nature only contingently connected with B, the specification of A is logically connected with the specification of B.

Incorrigible knowledge of mental states :-

It is frequently claimed that introspective knowledge of mental states is logically immune from error. What I believe about my current mental state cannot be false. But all knowledge of physical items is corrigible. Thus mental states cannot be physical states. Materialists differ in reply to this objection. Smart concedes this to be a feature of the logic of reports in which introspective knowledge is expressed but urges that it is inessential and will pass away when materialism is generally embraced. Armstrong takes the bull by the horns and argues that the doctrine of incorrigible introspective knowledge is a mistake.

Epistemic dualism :- A much more wide-ranging argument has been advanced by some philosophers in the tradition of Kant. They argue that the categories of the physical and the mental are both necessary to a full understanding of human knowledge; that each presupposes favor of the other. If they are right, the very statement of materialism presupposes its own falsehood. To defend themselves against this claim, materialists are therefore bound to develop a complete epistemology. The most critical problem among contemporary materialists is to provide an account of the mind which has some prospect of being at once adequate and compatible with materialism. Major advances have been made in the direction, but whether they will be fully successful remains to be seen.

Naturalism :- in recent usage, is a species of philosophical monism according to which whatever exists or happens is natural in the sense of being susceptible to explanation through methods which, although paradigmatically exemplified in the natural sciences, are continuous from domain to domain of objects and events. Hence, naturalism is polemically defined as repudiating the view that there exists or could exist any entities or events which lie, in principle beyond the scope of scientific explanation. In all other respects naturalism is ontologically neutral in that it does not prescribe what specific kinds of entities there must be in the universe or how many distinct kinds of events we must suppose to take place. Accordingly, naturalism is merely compatible with the various forms of materialism it has been confused with; materialism is logically distinct from naturalism and requires independent support unless (as is not the case) materialism is the sole ontology compatible with the ubiquitous employment of scientific method. There is thus room within the naturalistic movement for any variety of otherwise rival ontologies, which explains the philosophical heterogeneity of the group of philosophers who identify themselves as naturalists; it is a methodological rather than an ontological monism to which they indifferently subscribe, a monism leaving them free to be dualists, idealists, materialists, atheists or nonatheists, as the case may be.

The tenets of naturalism :- Despite the official toleration of ontological diversity. The typical naturalist is likely to endorse, with whatever individual refinements he might require, most and perhaps all of the following tenets.

(1) The entire knowable universe is composed of natural objects -- that is, objects which come into and pass out of existence in consequence of the

operation of "natural causes". A rock, a cloud, a frog, a human being, are all instances of natural objects, however they may otherwise differ and however important these differences may be. Every natural object exists within the spatio temporal and the causal orders. The universe may in addition contain one or another sort of non-natural object, but have no reason for allowing the existence of nonnatural objects unless they have impact on the observable behaviour of natural objects, for natural objects are the only objects about which we know directly, and it would be only with reference to their perturbations that we might secure indirect knowledge of nonnatural objects, should there be any.

(2) A natural cause is a natural object or an episode in the history of a natural object which brings about a change in some other natural object. Each natural object owes its existence, continuance, and end to the constant operation on it of natural causes, and it is solely with reference to natural causes that we explain changes in the behaviour of natural objects. This may require reference to objects we cannot directly experience, but these will nevertheless still be natural objects, and we need never go outside the system of natural objects for explanations of what takes place within it. Reference to nonnatural objects is never explanatory.

(3) A natural process is any change in a natural objects or system of natural objects which is due to a natural cause or system of natural causes. There are no nonnatural processes.

(4) The natural order or nature is not simply a collection of all the natural objects but a system of all natural processes. Nature is in principle intelligible in all its parts, but it cannot be explained as a whole. For this would presumably require reference to a natural cause, and outside nature as a whole there are no natural causes to be found. Or else it would require reference to a

nonnatural object, but such reference is never explanatory. Nature is self contained as a system with reference to the furnishing of natural explanations, which means not that there will ever necessarily be natural explanations of everything but only that there are no intrinsic limits placed on which natural processes can be naturally explained. Thus, they are all in principle naturally explainable.

(5) Natural method is simply (a) explaining natural processes through identification of the natural causes responsible for them and (b) testing any given explanation with regard to consequences that must hold if it is true. Truth is merely a matter of consequences, and nature is in each of its parts susceptible to the natural method. The natural method is the way in which one set of natural objects men operate upon the rest of the nature.

(6) Nature could not be both intelligible everywhere and random everywhere, no natural process could be intelligible if in each instance it were produced by dissimilar natural causes or if each natural process were dissimilar to every other. The thesis that nature is intelligible is equivalent to the claim that natural processes are regular. The natural method seeks, accordingly, to establish natural laws. Human beings, as natural objects, are not less subject to natural laws than are other parts of nature, and the natural processes that make up the mental and social life of human beings are equally with the rest of nature subject to the application of the natural method, within the scope of the natural law it seeks to establish.

(7) Whatever may be their official persuasions, all philosophers must function in the natural order as other humans do and, in order to do this successfully, most spontaneously apply the natural method. Farmers and mechanics do not suppose that events have no explanation, neither do policemen or politicians. Whether in human or in nonhuman contexts, men every where naturally seek

natural explanations. Recourse is taken to non natural explanation only in moments of despair. But a non natural explanation merely underscores the fact that something cannot be explained or made intelligible at the moment -- it does not provide an alternative kind of explanation or intelligibility. All non natural explanations the result of using non natural methods are in principle replaceable with natural explanations. Nonnaturalists contradict in their practice what they profess in their theories. Naturalists alone hold theories consonant with their practice.

(8) Reason is the consistent application of natural method, and natural science is the purest example of reason. Science reflects while it refines upon the very methods primitively exemplified in common life and practice. Science is thus a way of acting rather than a set of doctrines, and science is, as such, not committed to any specific scheme of intelligibility. Its theories are held to the degree that they serve to explain natural processes, but it is consonant with the commitment to natural method that any theory is perpetually subject to revision or rejection in view of further test. Any scheme of intelligibility may be abandoned without thereby abandoning the principle that nature is intelligible throughout. Science is naturally self - corrective if we think of it as it is as a method to which its own doctrines are unremittingly subjected.

(9) Knowledge of the world at a given time is what science tells us at that time about the world. For the doctrines of science have presumably been achieved through the most rigorous and consecutive application of the natural method. Should there be a conflict between common sense and science, it must be decided in favour of science, in as much as it employs, but more rigorously, the same method that common sense does and cannot therefore, be repudiated without repudiating common sense itself. Conflicts within science are settled through deriving testable consequences from rival theories until a basis for

rational differentiation appears. But because any theory remains infinitely testable, no ultimate certitude attaches to what science holds at any given time. Hence, there is nothing ultimate or eternal about knowledge and, by naturalistic criteria, "P may be false" is compatible with "We know that P", since knowledge is what science says, and what science says may always be rejected in the light of further applications of natural method.

(10) Whatever further or other distinctions there may be between the (so-called) formal and the empirical sciences, they are alike in that the truths of the former no more entail a platonistic ontology than the latter, nor are we, in using algorithms, committed to the existence of numerical entities as nonnatural objects. If the formal sciences are about anything, it will at least not be a realm of timeless numerical essences, and at any rate logic and mathematics are properly appreciated in terms not of subject matter but of function, as instruments for coping with this world rather than as descriptions of another one. A theory of logic is a theory of inquiry, which is reason in action.

(11) To say that outside science there is no knowledge to be had is not to say that it is only through science that men should relate to nature, for there are many ways of experiencing the world. Nevertheless, the only mode of experience which is cognitive is scientific, and no cognitive claims are to be accepted if they are based on other experimental modes. It is not the aim of naturalism to impoverish experience.

(12) Nor is it the aim of naturalism to insist that all natural objects are really reducible to one favoured sort of natural object or that only the objects or the descriptions of objects recognized by the natural sciences are real. All natural objects are equally real and the descriptive vocabulary of the sciences does not exhaust the reality of nature.

(13) The universe at large has no moral character save to the extent that it sustains human beings among its objects and thus contains entities that have and pursue values. Men are integral though distinctive components of nature and, though part of the natural order, are not reducible in any way to other parts, save in the sense that along with the rest of nature, human beings are explainable through the methods of the natural sciences. Human institutions and practices, the modes of experience of men, the goals and values of individuals and groups, are all natural, and no less so the wheeling of galaxies and the evolution of species. The natural method alone, not some special moral intuition, provides the key to dissolving moral disputes, and moral theories may be treated no differently from scientific theories with respect to determination of their strength through testable consequences. Naturalism although otherwise morally neutral, is committed to institutions that permit the operation of natural method in moral and political decision in which qua naturalist, the naturalist otherwise takes no sides.

(14) Naturalistic philosophy, unlike other philosophies, claims no special subject matter and uses no special tools. Its method is the natural method, and its problems are the problems of men. Positively, then, naturalists will be engaged in helpful clarification's of problems which arise in the course of human life rather than with anything otherwise identifiable as a philosophical problem. Negatively the naturalist is a polemicist, defending naturalism and the natural method against antinaturalism of all varieties and types.

Criticism :- These tenets, however crudely stated, constitute perhaps the main components of the naturalistic program. Each is obviously subject to question and contest. Naturalists have typically used one or another of the theses to support one under attack and in the polemical literature truly philosophical

arguments in support of the program are rare, naturalists have tended to be philosophers of this or that discipline -- of science, of history, of law, etc. --- in consonance with their view of what philosophy ought to be, and in these spheres of specialized competence, they have made their major contributions, which have been considerable. There nevertheless exists a vacuum between their special inquiries, on the one hand and their polemics, on the other, where philosophy as such as an independent inquiry, is in large degree neglected. Thus Arthur Murphy, an otherwise sympathetic critic, has written that while there is little question of what is the naturalistic position, it remains the case that "The naturalists, who have so much that is good to offer, still lack and need a philosophy" this implies that it is philosophical justification which naturalists have failed to furnish for their views. But of course and consonantly with these views naturalists have characteristically understressed matters of presupposition and the like. For they have argued that no philosophy can get on without presuppositions of one sort or another, that its own presuppositions are minimal, and that if any of its presuppositions should prove dubious, naturalism is at all events committed to an unrelenting self-criticism and is on the alert for unlikely consequences. But this is precisely to insist that naturalistic criteria be used in the adjudication of philosophical issues and in the determination of philosophical doctrine -- and hence to insist that naturalism settle in its own way the issues between naturalism and its rivals. This has led to charge of circularity or disingenuousness. But such criticisms leave the naturalist undismayed, since he insists that he uses no method in philosophy that his critics do not employ in life. But critics have proposed that issues in philosophy are different from issues in life or even science, for that matter, and the continuity of method is exactly what is at issue. And here matters more or less stand, the chief divisions being not so much between naturalists and

antinaturalists --- the latter being chiefly those who have proposed limits to science on ontological grounds and in combat with whom the naturalist has always been most comfortable -- but between competing views of what philosophy is. And here the critics of naturalism are not necessarily antinaturalistic in the comfortable sense of being unhappy with science, in proposing that there are nonnatural entities etc, but rather in the sense of supposing philosophy has its own problems and techniques, to the neglect of which naturalism owes its own neglect at the hands of contemporary nonnaturalist philosophers.

Naturalism flourished in American universities and in the pages of American philosophical journals in the late 1930's and through the 1940's. In the following decade, chiefly in consequence of movements originating in England and on the continent, the vacuum which the polarization of naturalist philosophizing created was increasingly filled with the sorts of philosophical inquiries that the naturalist typically viewed with distaste and suspicion as being remote from the issues of the specialized disciplines and the problems of men. Despite some notable efforts to bring naturalism forward in recent times as a respectable metaphysics and an adequate system of philosophy, the typical professional philosopher appears no longer to find the form in which these issues are presented especially challenging. The dominant contests in contemporary philosophy have been cast in other terms and are fought on seemingly different fields. On the other hand, to a great extent many of the fashionable problems are merely disguises for questions which could as easily, and perhaps even more directly, be represented as arising in connection with the claim of the continuity of scientific method.

Mechanism :- Mechanism is sometimes said to be the theory that living organisms and all of their living parts are machines. This is unfortunate for several reasons. There is a tendency, at least in everyday speech, to reserve the term "machine" for artificial devices of a certain sort, especially, as J.J.C. Smart has argued for devices, such as sewing and milking machines, that perform tasks ordinarily performed by people. Organisms are obviously not machines in this sense. There is also a tendency in both the scientific and common Vernacular to regard an object of a certain kind (for example, kind) as a machine -- whether or not it is an artificial device--only if there are certain activities that are regarded as characteristic of all objects answering to the definition of and that can be described and explained solely by the principles of mechanics. Thus, for example, at the end of the seventeenth century, it was common to call the solar system a machine and to ascribe to Descartes the view that "brutes"-- but not men, are machines today, most people would be willing to call a pulley system or a bicycle a machine. A living organism, of course, is not a machine in this sense. No matter how we define the science of mechanics -- and the usage of physicists is not decisive -- mechanical action is to be distinguished from chemical action, which is certainly regarded as characteristic of living organisms.

Finally there is a tendency among some physicists and engineers, especially those engaged in systems design and analysis, to use the terms "machine" and "system" interchangeably. This tendency can be traced to two linguistic facts. Many systems that they call machines are machines in one or both of the above senses; and those systems that are not machines in either of these senses may be "mechanisms". We ordinarily apply the term "mechanism" more broadly than "machine". Radios, watches, telephones, electric switches and the like are, in the vernacular, regularly mechanisms and

only sporadically machines. Since a scientist is unlikely to see any significant theoretical difference between systems that are paradigmatic machines (such as sewing machines) and systems that are paradigmatic mechanisms but not machines (such as telephones), he is willing to extend the term "machine" at least to cover mechanisms. Moreover, there seems to be no significant theoretical difference between the systems that are regularly called mechanisms and any assemblage of material parts that show causal interaction.

In everyday usage a mechanism is a system whose parts are related in the following manner (1) Changes in some of the parts cause changes in most of the others (2) These causally connected changes are regarded as identical with some single activity. For example, when we switch that turns on a lamp is thrown, a bar changes position a spring is stretched, a friction lock is activated, and a gap between two contacts is closed. These changes are all regarded as identical with the single activity of closing the switch. (3) This single activity is of some special interest. It is frequently the function that the mechanism was designed to serve, in this case we often use such expressions as "Switching mechanism" or "starting mechanism". Sometimes, however, we are interested in an activity or process only for other, perhaps scientific reasons. For example, a biologist interested in the segregation of genetic traits is willing to speak of the processes of meiosis as the mechanism of genetic segregation. It is always possible, however, to regard any repetitive pattern of changes as a single activity, whether or not that activity has any special theoretical or practical significance. The relaxation of the requirement of special interest leads to the extension of the term " mechanism" to any system that satisfies conditions (1) and (2).

To summarize these linguistic points; the common language, serving as it does a variety of purposes, draws a distinction between the terms "machine" and "mechanism", and restricts the application of "mechanism" on grounds that are irrelevant to the aims of scientific inquiry. There is no important principle, therefore, that would lead, the scientist to apply the term "machine" to one system and to deny it to another that is like a machine in every relevant respect. Thus the tendency arises to use the terms "system" and "machine" interchangeably. The separation of the concept of a machine from the science, of mechanics is aided by the concept of a mechanism, for "mechanism" is connected etymologically with "mechanics" but in ordinary application is not especially associated with mechanical systems.

"Mechanism" as a philosophical theory : If mechanism is interpreted to mean that living organisms are machines in the broadest sense (material systems), then the term marks no distinction in the philosophical beliefs of biologists. No biologist believes that organisms are machines in the colloquial sense, but even vitalistic and organismic biologists would agree that organisms are machines in the broader sense and that every organic process is accomplished by means of mechanisms. The important philosophical differences, which will be associated here with the term "mechanism", concern the nature of the principles needed in accounting for the behaviour of living systems.

Two conceptions will be helpful in drawing the distinction between mechanisms and machines. The first is the notion of exemplification of a law in a system or process. One can say, for instance, that an object falling in an evacuated cylinder exemplifies Galileo's law of free fall ($S = 1/2gt^2$) and that the inheritance of a set of genetic traits may exemplify Mendel's laws of independent assortment and segregation. On the other hand, a football resting

on a table top exemplifies neither law. If we think of a law as of the form "If conditions A are met, then so are conditions B", the law as of the form "If conditions A are met, then so are conditions B" the law is then exemplified in every system that meets conditions A, but not necessarily by every system that satisfies the propositional function $AX > BX$. By this convention, then Newton would have said that everybody exemplifies the law of universal gravitation, but only some special systems, such as a falling body or the solar system, exemplify Galileo's and Kepler's laws. One can also say that the events themselves exemplify a law if they occur in a system that exemplifies the law.

The second conception may be explained as follows. It is, of course, a common place that numerically the same event may fall under conceptually distinct descriptions. A particular dive, executed by a contestant in a competition might, for example, be described as a case of relatively free fall, a swan dive, a graceful performance ; or the winning effort. The alternative descriptions here belong to different conceptual schemes, but they apply properly to numerically in the event itself would make some of the descriptions inapplicable : for instance, one sort of difference could make the description "swan dive" inapplicable but leave the rest unchanged. Moreover and this is philosophically of greater interest there is a sense in which the event could be the same and yet some of the descriptions would be inapplicable, for some of the descriptions depend for their applicability on the circumstances of the event's occurrence. Thus, if the dive were not part of a competition, it could not be a winning effort. It will be assumed for the purposes of this article that sufficiently clear criteria are available for the term " same event". This will, in general permit us to say whether E_1 and E_2 are numerically the same event, where E_1 and E_2 are distinct descriptions with their own criteria of application.

In particular, one or both of the descriptions may be appropriate only under special circumstances of the event's occurrence.

Mechanism may now be defined as the view that every event E , which is describable as a biological event (by any reasonable criterion of "biological"), is numerically the same as the set of events (E_1, E_2, \dots, E_n); in which each E_i exemplifies no laws that are not also exemplified in non biological systems ("non-biological" by the same criterion as "biological") stated less formally, mechanism is the view that every biological event is a pattern of non biological occurrences.

The above definition of mechanism specifies a sense in which biological phenomena might be reducible to the physicochemical. It differs, however, from some standard explications of reducibility. Without examining any of these explications in detail, we may, however, note some of the differences. It is usual to distinguish between conceptual and nomic reduction. Theory T_2 is conceptually reducible to T_1 if all the terms in the theoretical Vocabulary of T_2 may be defined by the terms in T_1 . Our definition leaves reducibility in this sense an open question. It is plausible to suppose that biology contains terms that could not be defined by reference to physics and chemistry particularly if we count psychological phenomena as special cases of the biological, but perhaps even if we do not. Biological theory takes account of the circumstances of an event's occurrence in a way that the physical sciences do not. For example, it is a biological fact that lions hunt Zebras. The biological mechanist ought to insist merely that everything that happens in a given case of Zebra hunting is identical with a sequence of physicochemical events, not that the concept of hunting can be defined in physicochemical events, not indeed, it may be the case that "hunting" can be defined only in intentional language.

A theory T_2 is nomically reducible to T_1 if all the laws of T_2 can be deduced from the laws of T_1 with the help of co-ordinating definitions and specifications of the structure of T_2 systems in the vocabulary of T_1 . Again a mechanist ought to say that biological phenomena are reducible to the non-biological and still leave open the question of whether nomic reducibility is possible even in principle. It seems a priori that the non biological laws that alone are exemplified in the set of events (E_1, E_2, \dots, E_n) might have a degree of complexity that would render it impossible to specify their form under the initial and boundary conditions embodied in organic systems.

If one were to say that biological phenomena are, after all not just physicochemical phenomena, he would be correct in any sense that could be important to him; and yet mechanism, even of the form that states that all biological phenomena are physiochemical, is also correct, in any sense that matters to the mechanist. "Is hunting a Zebra a physiochemical process ?" is too simple a question. The description "hunting a zebra " belongs to a conceptual scheme that is not physicochemical : however a alternative description of the same event could belong to the physicochemical scheme.

Various philosophers/intellectuals have appreciated these movements; but they say we cannot look upon these explanations provided by these movements as adequate. They are of the opinion and I too agree with them, that the concept of self/Human Reality is not tackled adequately by these movements. In other words though these movements like Positivism, Behaviourism, materialism, Naturalism, mechanism try to explain human reality they have not been in a position to unravel the mystique of human reality/consciousness. They try to tackle this problem in a stimulus - response fashion. ie., they try to explain human reality in verifiable/objective language. And when this is done emphasis is laid on one side of the human reality. ie.

they don't give you a wholistic picture of the human reality and therefore I feel that one has to make an attempt to tackle this problem/understand human reality with reference to a combination of something like empirical phenomenological and existential method rather than emphasizing only the objective method because when one does so one realises that one reaches a certain stage wherein the explanation provided illudes us i.e. it does not give us a gestaltic picture of human reality/human consciousness. This subject matter itself is such that using objective method to understand it will never give us a complete picture because the subject matter itself is not totally objective.

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CHAPTER III

THE SEEMING CONFIRMATION OF THE NATURALISTIC VIEW IN ARTIFICIAL INTELLIGENCE :

The "pre - history" of artificial intelligence dates as far back as Greek mythology.¹ Long before there was a field called artificial intelligence - long before there were computers or even a knowledge of electronics - people were irresistibly drawn to the idea of creating intelligence outside the human body.

Several examples date back all the way to Greek mythology. Hephaestus son of Hera, seems to have fashioned human like creations regularly in his forge; and Talos, one of Hephaestus bronze men, guarded and defended Crete. Disenchanted with human women pygmalion made his own woman out of ivory and Aphrodite Galatea, this man-made woman, to life. Daedalus most famous for his artificial wings, also created artificial people.

Examples of people attempting to create intelligent beings also can be found in medieval Europe and the sixteenth century. In medieval Europe, Pope Sylvester II is credited with building a talking head with a limited Vocabulary and a Knack for prognostication -- Sylvester would ask it a simple question about the future, and the artificial head would answer yes or no. Arab astrologers are said to have constructed a thinking machine called the Zairja; the missionary Ramon Lull answered with a christian adaptation, the Ars Magna.

In the early sixteenth century, Paracelsus, a prominent physician, claimed to have invented a homunculus, a little man. "We shall be like Gods", he wrote enthusiastically. "We shall duplicate God's greatest miracle the creation of man".²

Artificial Intelligence researchers don't agree on one definition of artificial intelligence. Let us see some of them According to Edaine Richs. Artificial intelligence is the study of how to make computers do things at which at the moment, people are better".³ Implicit in Rich's definition is the idea that there are indeed things that computers do better than people. For example:

(1) Numerical computation. One small, special purpose computer with which we are undoubtedly familiar is the hand - held calculator. If a individual were asked to multiply 6218 by 9337, would he rather perform the computation in his, head or use a calculator? Which technique would be faster ? More accurate? Obviously, even a tiny calculator can outperform a human when it comes to mathematical computations. (Computers were, infact, invented specifically for this purpose). Larger computers are so fast and accurate that they can perform calculations that literally would be impossible for one person to complete in a life time using any other means

(2) Information storage : It is likely that many of the bills You receive each month are processed by a computer. A typical business comptuer might contain, for example, the names and addresses of thousands of customers accompanied by complete records of their financial transactions.

If you didn't have a computer do you suppose that it would be possible for you to remember all of that data ? Of course not. Yet a computer can "remember". Voluminous amounts of information and recall any of it at your command.

(3) Repetitive Operations : We frequently instruct computers to perform the same tasks, day in and day out, Over and over again. Fortunately for us,

computers, don't get bored. If you use a computer to print 1000 copies of a customer report, for example, the quality of the last report is as good as that of the first. If you tried to copy those reports manually the quality probably would start to diminish quickly after the first few copies.

People have traditionally outperformed computers in activities that involve intelligence. We do much more than just process information; we understand it. We "make sense" out of what we see and hear ; we come up with new ideas seemingly out of thin air; we use common sense to make our way through a world that sometimes seems highly illogical.

If people are more intelligent than computers and if, as in Rich's definition, AI tries to improve the performance of computers in activities that people do better then the goal of AI is to make computers more intelligent. This concept forms the basis of a second definition of AI :

"Artificial intelligence is the part of computer Science concerned with designing intelligent computer systems, that is, systems that exhibit the characteristics we associate with intelligence in human behaviour".⁴ The goal of AI, according to Barr and Feigenbaum, is to develop intelligent computers. It is important to notice that they define an intelligent computer as one that emulates intelligent behaviour in humans.

It has also been said that AI is a branch of Computer Science devoted to the study of techniques for constructing programs enabling computers to exhibit aspects of intelligent behaviour, such as playing checkers, solving logical puzzles, or understanding restricted portions of a natural language such as English. ⁵

There are many ways to define the field of Artificial Intelligence. Here is another one "Artificial Intelligence is the study of the computations that make it possible to perceive, reason and act".⁶

To understand the concept of artificial intelligence more deeply let us first try to understand what is intelligence ? This is an issue which has occupied philosophers for centuries. Intelligence has many aspects, such as the capacity to plan, to learn, to solve problems, and to use language. Behaviour demonstrating any of these abilities is regarded by most people as "intelligent" and it is the aim of workers in artificial intelligence to make computers exhibit such behaviour. Intelligence also indicates the capacity to respond to situations very flexibly" -- You do not necessarily respond the same way each time. You are confronted with an indential problem. If you did, you would be exhibiting mechanical, rather than intelligent behaviour. It also means "To make sense out of ambiguous or contradictory messages" -- You are able to understand many statements that appear to be ambiguous or contradictory largely because your knowledge and experience allow you to place them in context. It involves the capacity "to recognise the relative importance of different elements of a situation" -- Although you are bombarded with an overwhelming amount of information each day, you "make sense" of your world by assigning different levels of importance to different events. Intelligence further signifies the capacity "To find similarities between situations despite differences which may separate them" -- By recognizing similarities, you can base your future actions on what you have learned in the past. Two situations do not have to be identical for you to apply the lessons of your experience. It further indicates the capacity "To draw distinctions between situations despite similarities which may link them" -- Although two situations may appear to be similar on the surface, you are able to notice differences which may lead you to adjust your reactions accordingly.

These abilities share at least one attribute : They all come very easily to people. In fact we often group these abilities under the heading of common

sense. The implication is that there is nothing special about possessing these kinds of mental abilities; they are, in fact, common. '

This discussion provokes us to ask the question why was the computer invented.⁷ Many of the routine activities in today's society are performed by computers. For example ; when we go on holiday our 'plane seats are often reserved by computers; the traffic in some major cities is, to a degree, controlled by computers; the egg which you might have had for breakfast may have been laid (no, not by a computer) by a chicken whose life history is on record on a computer file, many of the bills we pay (rates, gas, electricity, telephone, insurance, etc) are calculated and printed by a computer.

The problems which early computers had to solve were mostly mathematical. Today, computers are used to forecast the weather to operate machines to cut shapes out of sheet metal, and even to guide spacecraft to the moon. They can set and print newspapers and books. They can be used to help in diagnosing diseases and to find out whether a hospital bed is available for a particular patient. They are used to find obscure documents in archives and elusive criminals on the run. Travel agents around the world have come to rely on them to book seats on air flights or rooms in hotels, either today or a year from now. Companies use them for accounting, invoicing, stock control and payrolls.

AI researches have speculated on how AI could be used to solve the large problems in civilized society. for eg.

(1) Location of Public Facilities : The location of schools, fire departments, libraries, and other public buildings should not be decided haphazardly. Issues to be considered in making decisions include accessibility to public transportation, nearness to groups not likely to have personal transportation, access to highways, the relative security of an area, and so on. Heuristic

programs have been developed to help designers plan public sections of urban areas.

(2) Garbage Pickup : Garbage pick-up routes were in many cases established years ago and may now be severely inefficient. Redesigning a large - city garbage route can be expensive and time consuming if done by humans programs, however, have been able to effect a 50-percent reduction in garbage truck travel.

(3) School Bus Routing : Organization of a fleet of school buses involve problems of which most people are unaware. Distance and economy of travel are only two criteria that must be considered. Most state laws provide for a maximum length of time any student can ride the bus. The bus must be able to stop and make all required turns safely, which often limits the size of the bus that can be used on some streets. For example, a larger school bus may not be able to negotiate a turn that is easy for a smaller bus. The development of heuristic programs has resulted in shorter overall travel of the entire fleet, a shorter longest route, and better distribution (more even loads) of passengers.

One can see that computers are versatile. They are in action everywhere from schools to hospitals, sweet shops to banks ; in digital watches and electronic games ; making weather forecasts and directing space rockets, helping the disabled and guiding missiles ; controlling a robot on a production line or acting as cupid in a computer dating service.

Let us see some of the characteristics of computers in detail (1) Speed : The computer was first conceived as a highspeed calculator this has led to many scientific projects being carried out which were previously impossible. The control of the moon landing would not have been feasible without computers, and neither would today's more scientific approach to weather prediction. If we want tomorrow's forecast today (and not in six months time)

meteorologists can use the computer to perform quickly the necessary calculations and analyses.

(2) Storage : The speed with which computers can process large quantities of information has led to the generation of new information on a vast scale, in other words, the computer has compounded the information explosion. How can people cope with it ? We can't, but computers can.

(3) Accuracy : Almost without exception, the errors in computing are due to human rather than to technological weaknesses i.e., to imprecise thinking by the programmer, or to inaccurate data, or to poorly designed systems.

(4) Versatility : Computers seem capable of performing almost any task provided that the task can be reduced to a series of logical steps. For example, a task such as preparing a payroll or controlling the flow of traffic can be broken down into a logical sequence of operations.

(5) Automation : A computer is much more than an adding machine, calculator or check - out till, all of which require human operators to press the necessary keys for the operations to be performed.

(6) Diligence : Being a machine, a computer does not suffer from the human traits of tiredness and lack of concentration. If 3 million calculations have to be performed, it will perform the 3 millionth with exactly the same accuracy and speed as the first. This factor may cause those whose jobs are highly repetitive to regard the computer as a threat. But to those who rely on a

continuous standard of output, eg. quality control in the refining of oil and other chemical processes, the computer is seen as a considerable help.

(7) Word processing : At a general office level, word processing systems are common place. Word processors are particularly useful for preparing reports that may need to go through one or more revisions and for producing standard letters and documents. The software provides the capability to insert or delete words, lines or paragraphs and to print out drafts and final copies at speed. No matter how many revisions are required the full text is only typed in once i.e. the initial draft.

(8) Electronic Office : There is much talk today of the electronic office. Office automation is fostering the evolution of the electronic office in which there is less emphasis on the written word (printed on paper) and more emphasis on retaining, manipulating and utilizing information in electronic form.

(9) Banking : Banks were among the first large organizations to invest heavily in computing, and today banking is almost totally dependent on the computer. In the past, a large but manageable amount of book keeping was handled manually. But such has been the expansion in banking that a huge labour force would be needed to tackle today 's massive volume of book keeping the computer is necessary because there is no other way of dealing with the problem.

(10) Insurance and stockbroking : Insurance companies, finance houses and stockbroking firms also make use of computers. Here conditions and requirements are similar to those in banking. Large files of information have to

be retained and updated, interest rates and bonuses have to be calculated, policy statements and renewal notices have to be prepared and payments made. In the buying and selling of stocks and shares various calculations have to be made. Contract notes drawn up and files consulted and amended.

(11) An aid to management :- We have seen that the computer is able to provide useful information. Let us consider what this means to people in managerial positions whose task is essentially to translate information into action the immediate benefit is that the information provided is comprehensive and up-to-date. This means that decisions taken can be more reliable, and they can often be made in advance of crises, and thus perhaps prevent one, rather than after it has occurred. The computer can also be used as a management tool to assist in solving business problems. In operational (or operations) research, which is the name given to the application of scientific procedures to decision making, certain techniques are used which require the calculation and storage abilities which the computer can provide.

(12) Industrial Applications : In industry, production may be planned Co-ordinated and controlled with the aid of a computer. The computer may also be used to direct the operation of individual machine tools (drills, lathes, saws, etc) and also to operate assembly machines which piece together parts of equipment. (eg. electrical and mechanical appliances, sections of motor cars and even complete vehicles). The use of numerically controlled machine tools directed by computer - produced tapes can speed up production and reduce scrap wastage. In certain industries (chemical, Oil refining) the computer can be used to monitor and regulate total processes (i.e., to perform process control) without human intervention just as it can to control air conditioning and

heating systems in modern multi-storey buildings.

The control of a chemical plant by computers is a much safer and more efficient method than by manual control, since changes in conditions which occur during a process can be detected and compensated for immediately. It would, however, be normal for human operators to maintain surveillance over the total process in order to intervene should the need arise.

Oil refining, the separation of crude oil into its many component oils is a continuous process and it depends on the maintenance of certain conditions through out the process. These two factors make refining a suitable application for computer control. Instruments measure such variables as temperature, flow and pressure. Any deviation from the standard is detected and regulating devices are adjusted to bring the process back into line.

13) Electricity : Starting up a power station involves many complex operations which have to follow a strict sequence with set time limits between each operation. This is a laborious, time - consuming task under manual supervision but one for which the computer is well suited. The Computer is also used by electricity authorities for load control. Demand for electricity is not constant throughout the day nor throughout the year Generators have to be phased in and out to meet changing situations. Because of the time lag required to build up the necessary power, fluctuations in the load have to be anticipated in advance.

Under computer control, past records stored in the system, relating to changing hourly demands under various weather conditions are scanned and compared with the actual present loads in different parts of the supply network. Predictions are then made and generators are set to start and stop at certain times. This ensures that extra power is transferred to those areas

where it is most needed at peak periods. It also ensures that those generators which have to be expensively fuelled with precious natural resources (oil, gas, coal) are not run wastefully when the demand for power drops.

(14) **Steel** : Process control applied to certain parts of steel production has increased efficiency in the industry. One example is in the cutting of the steel into lengths to match the firms's order book. In the rolling mills, which run at great speed, red - hot steel billets are rolled out into strips. The billet size is not known accurately to begin with and, as each is rolled out, the length, increased until the required thickness of sheet or diameter of rod is reached. Before the use of computers, the mill would cut the sheets or rods, of varying lengths, into standard sizes or a particular size for one order. The lengths of steel left over would be scrap which would have to be re-smelted, resulting in a lower grade steel. With the advent of computers, the amount of scrap was reduced to a minimum, for it became possible to calculate the lengths that the billets would make whilst still red hot and being rolled out. This information could be matched against a table of orders for the type and quality of steel being rolled, in time for the flying shears. (Computer controlled) to cut the strips in the best way.

(15) **Printing and paper** : Computers are widely used by publishing houses and the printing trade where they are particularly useful in the production of newspapers, magazines and any other publications for which it is necessary to meet strict deadlines and where time is short. Journalists prepare their stories at work stations using a word processor. The completed articles are stored and eventually transferred for composition to produce the final layout of the newspaper the typesetting is rapidly performed under computer control utilizing

all the different type styles (founts) and character widths and depths (point sizes) that are necessary, dispensing with the traditional typesetting stage of the production process in which the type is set up manually.

In the manufacture of paper there are continuous processes, predetermined standards have to be maintained and wastage has to be minimized. Computers assist the paper mills with process control in ways similar to those described in the chemical, oil refining and steel industries.

(16) Engineering design : The design of any piece of engineering whether an aeroplane, ship, car, bridge, road, building or machine should not merely be pleasing to look at. The piece of engineering must not only be able to perform the tasks intended for it over its economic or anticipated life, but it must also be able to withstand all foreseeable mishaps during its working life. Engineering designs, however, sound they may seem to be on paper have to be physically tested under simulated or real - life circumstances before becoming operational.

Computers can help in calculating that all parts of a proposed design are satisfactory as well as assisting directly in the design. If modifications are necessary and further calculations are required, the computer can evaluate the alternatives more quickly and more accurately than would otherwise be possible. This means a great saving in time and elimination of technical faults and human error (which could possibly be disastrous), before a design is further developed.

Computers are also used in calculations of space and layout as well as strength requirements. This not only helps ensure that engine parts are accessible for maintenance, and bridges and tunnels high and wide enough for unusual traffic; it also ensures that there is enough room for everything --

passengers, fuel, cargo, etc. In motorway construction, the computer can calculate the amount of soil needed to raise an embankment, or the amount of rock to be removed in cutting through a hill, and it can work out the most efficient movement of such materials.

When fitting the structural and spatial requirements of an engineering project into an overall design, the computer can also help with graphical display the creation of drawings and schematic diagrams. The facility to view a design from all angles while it is still on the drawing board, and then to be able to modify it quickly, avoids having to spend time and money building and testing several designs before determining which is the right one. The computer can provide graphical and perspective views to show the shape of a proposed aircraft wing or car body, the slope of a curve for a new road, the visibility that the pilot or motorist will have, or the accessibility of the instruments that he might have to operate. Computers are also used as an aid to circuit board design, even assisting electronic engineers in designing circuits for other computers.

(17) Meteorology : Predicting the weather has long been considered something of a mystique based on country signs and folklore. Meteorology, as a science, is relatively young and, with computer assistance, it has become much more of an exact science. The problem with meteorology has always been to obtain sufficient data, and to analyse that data quickly enough so that predictions can be made. Weather is observed and data collected by human observers working at land stations and on weather ships, and by automatic weather stations on land and sea (Moored or drifting buoys). Data is also recorded at different levels of the atmosphere using balloon -- borne equipment and remote sensors carried on satellites. Readings and measurements are also

taken from aircraft and commercial shipping. All this recorded data is transmitted to meteorological centres over telephone, radio and satellite, links. Armed with more information, the relationship between the variable factors which constitute weather can be analysed in greater depth and a more accurate prediction of future behaviour can then be made. The computer system is also able to analyse vast quantities of past measurements to test for weather patterns and, based partly on these results, long - range forecasts can be made.

(10) Space Technology : The development of space technology which culminated in the first moon landing was only possible because of the calculating powers and speed of the computer. Computers were used at the design stage of the project and in all phases of development right through to flight control. For example, they monitored and helped to control the proper functioning of all the equipment; they helped determine the routes (trajectory paths) and kept surveillance during the flight ; they plotted courses of action when unforeseen events occurred; and finally, they processed information relayed from the space vehicles.

The last point is significant because the collection of information is the main reason for putting satellites into orbit. Computer - linked space satellites provide previously unavailable information about the universe around us. This information is not merely of interest in scientific research (such as astronomy), but it increases our knowledge of our own planet (in geology and mineralogy), and it is of immediate practical value, for example, in meteorology. Satellites are also used as long range beacons or microwave reflectors to provide the immediate worldwide coverage of important events by TV and radio that we now take for granted, but which were inconceivable even a generation ago.

now take for granted, but which were inconceivable even a generation ago. Satellites as we have seen² are also used to provide worldwide digital communication links for data transmission. The computer has played a leading role in, and continues to be an integral part of, these wonders of the second half of the twentieth century.

(19) Communications : Air traffic control, which is responsible for organising the safe movement of our crowded airlines, depends on a significant amount of computer support. As flying speeds increase, control decisions have to be taken more quickly.

This also applies to the pilot who has to react not only to instructions relayed to him from traffic control, but also to changing situations during flight (variations in atmospheric pressure, wind speed and direction). Various instruments, dials and meters indicate the state of the flight and the current weather conditions these provide the pilot and the flight engineer with the information they need to control the flight and to make navigational calculations. It takes time, however to scan the instruments and to assimilate the information, and time can be critically precious at the speed at which the plane is flying. Small computers, made possible by the development of compact integrated circuits, are installed as part of the plane's equipment. These computers are programmed to continuously analyse data, which is relayed direct from the various instruments, and to provide co-ordinated information to the pilot in time for human decision and action. Control itself can also be invested in the computer so that, when certain conditions arise, automatic corrective action is immediately taken without the need for slower, human intervention.

Besides the many in - flight uses the computer plays an increasingly vital role in the training of pilots. A flight simulator provides an exact replica of the flight deck and performance of an aircraft, enabling the equivalent of many hours of flying to be undertaken without leaving the ground. The computer resolves the tasks, monitors and controls the pilot's action, and maintains a record of the pilot's performance.

At ground level, the information needs of a busy airline are extensive. Computers are used for the efficient handling of seat reservations, crew schedules, timetables, tariffs, cargoes, maintenance schedules, personnel records, accounting and stock control. Large scale air travel has developed quickly in recent years and computers have helped to make it a very reliable, and safe, form of transport.

Computer - Controlled seat reservation brings benefit to customers and to the airlines. It is an economic necessity that airlines operate as near to capacity as possible. To avoid over - booking, a complete list of all bookings needs to be maintained and be available for immediate interrogation. This is achieved by using communication networks covering whole continents, which link the booking offices to a large computer system, working in real - time. Communication between continents is established by using transoceanic cables and satellites computer controlled reservations are also applicable to travel agents, hotel rooms, theatre seats, and sporting events at large stadiums.

(20) Transportation : Other transport facilities are making increasing use of computers. Railways prepare timetables, scheduling at the same time the distribution of the rolling stock to operate their services, and they control busy stretches of track with computer assistance shipping companies devise the best method of loading and storing cargo, using computer programs which are

designed to take into account such variable factors as size, weight solidity (the ability to stack in layers), destination and urgency. The computer in conjunction with radar and other monitoring equipment can also be used to make increasingly crowded shipping lanes, like the English channel, safer. Haulage firms and transport concerns may determine optimum routing. If, for example, a vehicle has twenty delivery points, a computer program can consider all the various route options and pinpoint the shortest or the best route if other variable factors (such as avoiding travelling empty, combining several deliveries, refuelling) have to be taken into account.

Maintaining the flow of road traffic in congested areas is of paramount importance and an increasing problem. The computer assists with the control of traffic lights in some of the world's major cities and many more conurbations are likely to adopt this method of control. A single computer - based traffic system controls an area of some 200 Sq. Km in Tokyo and the system is being expanded year by year. A similar system is in operation in London. Results are impressive if not always apparent to the motorist. Individual sets of traffic lights normally change after a set period of time, regardless of the volume of traffic. A network under computer control operates instead on the basis of the volume and flow pattern of the traffic at the time. Information regarding the volume, detected by measuring devices on approaches to all sets of lights as the traffic moves, is transmitted to the computer system. This information, representing a total overall view of the distribution of traffic, is related to permanently stored information regarding distances between lights and the permitted traffic speeds. As a result, the various lights over the whole network are changed to maintain maximum flow. Some systems can even trigger warning signs advising drivers of the optimum speed at which they can maintain continuous movement.

(21) Local authorities, Central Government and public utilities : - Local authorities, central government departments, and state - controlled public utilities all have to maintain extensive records. Indeed, in a socially conscious, heavily populated, industrialised environment, the tasks of official dom today are of such a scale as to be impossible without computer assistance.

The computer is used extensively to carryout routine clerical functions, undertaking, for example, the preparation and printing of rate and tax demands, electricity bills and water rate demands. Computers are responsible for maintaining all driving licence records and for issuing renewal notices and licences. Similarly the registration of Vehicles is handled by computers in regional centres. The computer is also playing an increasingly prominent part in the organization and running of the public health and social services, in the maintenance of law and order, and as an aid to education. Parliament itself uses computers in the preparation of Hansard and for the storage and retrieval of information in electronic form.

(22) Telephones : Computerized telephone exchanges handle an ever - increasing volume of calls. They do so more quickly and with less likelihood of error than would otherwise be possible, and they can be linked up to other networks / exchanges for wider, prompt use. Cross - country, and even overseas, calls which previously meant a slow link - up through several switch boards and /or operators, can now be made directly and quickly. By way of satellites, calls can also be transmitted at faster speeds than through conventional networks. The computer can also maintain a log of calls for subsequent billing.

(23) Medicine : The uses of the computer in the medical field are partly analogous to applications in business and industry. We find, for example, the computer being used increasingly in hospital administration for such tasks as maintaining inventories of drugs, surgical equipment, and linen ; for payroll, hospital accounting; and for bed allocation. Information on the condition of patients, details of tests and clinical reports may be stored on a computer system. This combined information can be used to provide ward and patient summary reports and, where a terminal has been installed for the use of the ward nursing staff, the system can provide instructions and reminders concerning the care of individual patients.

In intensive care units, a computer can be used to monitor a patient's condition. Scanning instruments attached to the patient are linked on-line to the system so that nursing staff can be notified as the patient's condition changes. The computer may print out or display a log of the patient's condition drawing attention to measurements that fall outside the critical limits set by the doctor, or the computer itself may trigger directly the necessary corrective action.

In some clinics, a computer is used, albeit in an experimental way, to 'interview' patients before or after they see a doctor in order to collect information for the patient's records and even to assist with the diagnostic process. It is suggested that patients are more relaxed, and honest and frank with their replies when faced with an impersonal machine.

The computer may assist in prescribing the correct dosage and pattern of treatment, as, for example, in treating cancer by radiotherapy where it is vital that the correct dosage of radium is administered and only to the exact area required. Computers are being used to make these delicate calculations.

Using data provided by the consultant, the computer produces a treatment timetable complete with the calculated dosage for the individual patient.

The computer has an important part to play in medical research and in teaching doctors and nursing staff. The ability that a computer system has to retain information on a large scale means that detailed records of case histories of particular illnesses can be available for scrutiny in sufficient quantities to assist medical research. Models can be constructed in the computer system to simulate the behaviour of various parts of the body, for example, the lungs and the heart. It is also possible to use computer programs to test the effect that a form of treatment might have on a patient before it is administered.

(24) Law and order : The enforcement of law and order depends to an extent on the availability of up-to-date information. Police forces make extensive use of the information retrieval capability of computer systems for this purpose. Records are maintained concerning accidents, Vehicle owners, disqualified drivers, traffic tickets, stolen vehicles, fingerprints, criminals, wanted and missing persons, stolen property and drugs. Some of these records are stored on microfiche. It is important for police in all regions to have access to these files of information and for response time to enquiries to be immediate ; crime is not local and it does not stand still. A large network of terminals is needed with each terminal linked on line to a large central computer system. Networks can be linked together, eg. through Interpol, for fast, world wide investigation of cases of international significance.

Computers are becoming common place in solicitors and lawyers offices for the purpose of legal data retrieval as well as for conventional accounting, record keeping, and preparation of legal documents. Typically, an office is provided with a microcomputer for local work and a terminal link to a vast data

bank of legal information containing statutes, statutory instruments and accounts of past cases. A service organization is responsible for setting up and maintaining the data bank and lawyers who subscribe can conduct searches for information helpful to their clients problems.

(25) Education : The learning process can be enriched in many subjects because of the scale and range of information provided by computer data banks. Knowledge can be extended by the computer's ability to carry out lengthy and complex calculations at great speed. Use is increasingly being made of the computer as a resource in teaching and learning at all levels of education. Computers are used as a training and in industry, business and commerce, and to help train people how to use the computers and computer packages. The computer provides the opportunity for experiments to be carried out which would not otherwise be feasible because of dangers, costs etc.

The computer can ease the load of administrative duties, leaving the teacher more time to concentrate on teaching. For example, the computer can be used to assist in building timetables,; to monitor and schedule teaching resources, to build up and maintain comprehensive student records in order to provide a complete student profile, and to accumulate information for assistance with careers guidance.

(26) Information systems : Computer - based information services for the general public are now available in the home, using the television screen as an output device.

Computers were evolved partly to meet the needs of war. They have been developed for peaceful purposes and have helped to bring the world

closer together, to expand it, and to offer visions of other world's which were previously unattainable.

The first computers were designed for a few specialized uses. Technological development has extended the range of uses, and today's computers encompass a wide spectrum of applications - warlike and peaceful, particular and general.

Accordingly to Marvin Minsky ⁸, a remotely manned society is a future application for A. I. By using the technology of remote control, says Minsky, artificial intelligence can change the nature of human life. These improvements will be felt in many areas including :

(1) Energy : Few people dispute the idea that nuclear energy has the potential to provide the world with electricity through inexpensive and, in many cases, renewable materials. The main problems concern plant safety and recycling of waste material. Maintenance is much more difficult in nuclear plants than in conventional plants because of the nature of the material. If maintenance could take place without shutting the plant down and without interrupting normal operations, it could be done on a more regular basis, as is done in other types of plants. Minsky cites other advantages in remotely manning a nuclear plant ;

(a) Safety : No one would be exposed to radiation.

(b) Theft : The possible of plutonium and other radioactive material has received publicity recently. A few groups in the United states have even claimed to have fashioned nuclear weapons and have threatened to blow them up if demands were not met. That all such claims turned out to be false does not relieve many people of the fear that thieves could gain access to places where nuclear material is stored. A remotely manned plant would drastically reduce the number of people who would need to enter the plant. It would also

monitor all activity on a continuous basis and report suspicious activity to human or machine guards.

(c) Reliability : Constant inspections would almost entirely eliminate breakdowns and shutdowns.

(d) Integration : Because machines can virtually eliminate the possibility of human error as well as improve maintenance and inspection, on - site waste storage, waste processing, and energy production could be combined.

(e) Economy : Because materials can be handled easily and cheaply, materials with shorter lives can be used.

(2) Undersea exploration and exploitation : Most of the planet is ocean. The vast resources in the Ocean remain unutilized or underutilized because of the expense and danger involved in working underwater. Even underwater "plants" such as oil - drilling facilities are plagued by danger. The reason is similar to that mentioned in connection with nuclear plants : The difficulting in maintaining such systems results in their being undermaintained. A remotely manned underwater facility would be safe, cheap, and productive; it could be used for mining, farming, fishing, and exploration.

(3) Mining : Industrialization took place last century partly on the backs of miners who died young from the labor that was to produce cheap energy. Present - day workers will not put up with such brutal and unsafe conditions. Providing safety as well as the higher wages now demanded has caused the price of coal (and of other energy related products) to soar. Gaining access to resources will be cheaper and quicker with remotely manned mines'.

(4) Industrial production : This is the area in which robots have the most influence ; in the future, AI machines will play a most important role. The

economic structure of the world will be affected by these changes and poverty and drudgergy may be eliminated. Transportation, farming, education, and distribution of resources also will experience tremendous advances.

The all - pervasiveness of the computer revolution, the impact of computers on our society, the takeover by computers of human jobs, all leave a nagging thought in our minds : are humans expendable ? Will future society be a society of machines with humans as their servants ? Will it consist of no humans at all? ⁹ These questions are highly complex, as their answers depend not only upon machine capabilities, but also upon which of their capabilities man will allow machines to exercise. Machine capabilities have by no means been explored to their fullest. Nor is the possible extent of those abilities well understood.

Nevertheless, machines do have certain limitations. There are some tasks for which no algorithm exists. There are problems which cannot be solved by any routine method. Presumably, such problems require creative thinking and ingenuity for their solution. Thus the existence of machine limitations tends to suggest that humans are not expendable. If there are tasks which machines cannot perform, and indeed these tasks are quite fundamental and important then surely jobs will remain for which the special abilities of mankind are required. Possible examples are jobs which involve visual perception or understanding natural language. In the short term, therefore, the possibility of total machine takeover appears to be nil. There is still a wide gulf between the capabilities of modern computers and the capabilities of humans.

The above discussion reveals that computers have helped us a lot in different fields. At the same time one realises that it has many negative effects let us examine some of them. It has been said that the computer, which is the main element of an informational system is considered as a

definite and powerful force opposed to man. According to R. Cassin an expert in international law, computer - aided data transfer and treatment can infringe on privacy and individual freedom. He also states that accumulation, long term storage, and easy retrieval of information about all personal aspects, health, social activity, political views, associations, and so on are dangerous. The most common line of criticism expresses the general humanistic tradition, which rejects the machine as an impersonal thing which is indifferent to man but makes decisions for him. The computer is identified with a "mechanical monster".

The powerful products of our present - day technology offer many opportunities for abuse, nuclear weapons, chemical and biological warfare, and drugs, are just a few examples. It is easy to visualize the misuse of one of the most potent children of technology, the computer.¹⁰ There has been a lot of intentional misuse of computers. For example the so-called "Salami payroll". In the Salami payroll, the culprit takes a very small slice of each payee's money. For example, some computations inherently cause fractions of a cent to arise as the result. A programmer could deposit all round -- Off amounts to his own account. Given a payroll of many thousands of employees the total slice becomes quite a nice little sum of money. In a typical payroll, a clever culprit could get away with 1 - 2 C per person and still have the payroll" balance'.

A few real - life examples of intentional misuse selected from Gellman's. Using the computer to steal"¹¹ are given below.

(1) Between 1959 and 1963, the manager of data processing for a stockbroker embezzled over \$ 80,000 from the company by having checks made payable to fictitious payees. Only the inadvertent return of a check revealed the thefts.

(2) A group of individuals in an investment firm embezzled customer funds and then told the customers that a service agency had processed their accounts incorrectly. Because the public was ready to believe a cry of "Computer error", considerable time elapsed before the crime was discovered.

(3) A manager of claims in a government sponsored medical aid scheme introduced false doctor claims and directed the payment checks to an office he had rented under a fictitious name.

(4) Programmers have stolen information from a payroll system for use in union bargaining.

(5) Programmers have stolen information from a payroll system and sold it to a life insurance company agent.

(6) Programmers and Operators have stolen and sold name and address files.

(7) At a large canadian department store, a systems analyst placed orders for expensive appliances and coded them as "Special pricing orders". Using his knowledge of the system information flow and procedures, he intercepted the documents as they reached the "special pricing orders" desk. He then changed the list price to a price of six or seven dollars and then put the forged documents back into the regular stream. The appliances were delivered to him and he paid his account promptly. The practice was discovered by outside systems consultants called in to review the adequacy of the system" internal control procedures.

(8) An executive of a stockbrokerage firm embezzled about \$ 250,000 by personally creating punched cards to transfer credits to his own account from the company's interest revenue account.

(9) In 1970, five men, including a bank vice -president, were charged with defrauding two banks of more than \$ 1 million by using a computer. Deposit slips for cash deposits were made out when they were actually depositing checks. Since cash deposits are recorded for immediate credit, checks subsequently drawn appeared to be covered by the false cash deposits. If the deposits had been correctly made as check deposits, the computer would not have credited the money to the account immediately, so that when with drawals were made the computer would have indicated insufficient funds available with an uncollectable check on deposit. Ordinarily, a teller or branch manager would notice checks deposited as cash and refuse to accept them. In this case an assistant branch manager (one of the thieves) accepted the checks. The scheme was uncovered by accident when a bank messenger failed to deliver a bundle of deposits to the clearing house, leaving & 440, 000 worth of check withdrawals uncovered.

The gathering of data on a computer can erode personal privacy. Data can be used for blackmail, especially large scale political blackmail by governments or police with too much power. Harassment of individuals by law enforcement agencies and monopolistic corporations (including utility companies) can also occur. Errors in data collection can lead to many unfair practices, such as denial of employment or denial of credit. Out dated or incomplete data can cause similar problems. Unfettered publication of personal data can lead to personal trauma. Retention of information for long periods can result in excessive punishment of a person for a misdemeanor long since atoned for.

There have been different types of computer crimes occurring. Computer crime can be defined as any crime committed by unauthorized tampering with a computer. It is distinct from computer - related crime, which is crime

connected with a computer, but committed by conventional means. Examples of computer related crime are the theft of computer equipment or blueprints, or of computer programs or data printed on paper or stored on magnetic tapes. Computer related crimes can usually be countered by conventional security measures. However, computer crimes entail new and specialized criminal techniques, and can often be detected and prevented only by a good technical understanding of a computer system.

Computer crimes can be roughly categorized under three headings. Direct theft, indirect theft, and sabotage.

(1) Direct theft involves accessing the computer to steal programs, data or computer time. Some protection can be obtained by storing sensitive data and programs in secret codes. Further protection can be achieved by using separate passwords for individual programs and collections of critical data. These passwords should be changed regularly, and distributed on a strictly "need - to - know" basis. It is also important to ensure that any temporary copies of a program or data which are made inside the computer be similarly protected, and erased as soon as they are no longer required.

(2) Indirect theft is the area of computer crime which seems to have the greatest appeal to the press. It is typified by the unauthorized alteration alteration of programs or data inside the computer for illegal purposes. Classical cases include.

(1) The resting money method, in which a program that transfers money from one account to another is instructed to deposit the transferred amounts for short periods of time in the criminal's own account. This account then appears to have a significant average balance.

(2) Rounding error collection, where fractional parts of a cent, which arise naturally during calculations involving division (such as discounts), are subtracted from the accounts to which they should be credited, and instead are accumulated in the criminal's own account. It is surprising how rapidly these fractional cents can amount to a significant figure.

(3) Alteration of check writing programs to send additional checks to fictitious creditors (later collected and cashed by the criminal) .

(4) Transfer of funds from inactive accounts (which the owners have forgotten or never check) to the criminals account.

(5) The Pacific Telephone Swindle in which a high school student gained unauthorized access to the telephone company's computerized ordering system and placed fictitious orders for telephone equipment. At the time he was discovered, he employed ten people and a large warehouse in his telephone equipment reselling company.

Some of these indirect thefts are so subtle that they would require very fine auditing programs for their detection. One aid to prevention of some of the crimes is to divide a computer installations activities into many categories, and have no employee assigned to more than one category. This precaution, coupled with restricted access between the categories of activity, can limit major abuses to the (comparatively rare) cases of conspiracy between a number of employees from different categories. A case in which such a strategy would have been useful is that of a university programmer who recently confided that at one time or another he had been involved with every component of the group of computer programs which administer student

records this lack of security could have permitted him, if he had been so inclined, to graduate himself without ever attending a single class.

The final type of computer crime is outright sabotage. A disgruntled employee a commercial competitor, or a political saboteur may try to erase masses of data or valuable computer programs. Errors could be maliciously inserted into programs, or bogus jobs given to the computer in order to overload it and thereby reduce its effectiveness.

We know there exist algorithms for knitting a sweater, building a model plane, baking a cake, making a dress, and playing a Beethoven Sonata. We know that computers can control traffic signals, production lines and chemical plants. They can book airline flights, control robots and produce payrolls. There are algorithms for making a cup of coffee, finding the largest of a set of numbers, discovering whether or not a number is prime, and printing the greatest common divisor of two numbers. From our schooldays we remember that there exist algorithms for adding, subtracting multiplying and dividing numbers, and for computing square roots. No doubt there are algorithms for computing logarithms, finding the frequency of words in a given piece of text, and controlling a nuclear submarine. Is there any job which a computer cannot do - any job for which no algorithm exists?

The surprising answer is yes! There are many things a computer cannot do. In fact, the number of things which can be computed is infinitesimal compared with the number of things one might like to compute. Computers cannot do most things.

Artificial intelligence has generated questions of a practical nature, legal and ethical as well as religious : could an artifact enter contracts or be morally responsible; should it be proselytized, catechized, or offered sacraments? These in turn would raise questions of a conceptual nature, which ultimately

would have more impact upon our religious thinking. One set of concepts that would require re-examination regards the features that a human being is thought to share with divinity. Although the concept of mind is often equated with a concept of soul or spirit, most religious thinkers presumably would find it obvious that the expressions immortal soul and incarnate spirit cannot refer to entities of a sort that can be created artificially. One result for our religious thinking might be a motivation to distinguish "mind" more sharply from "soul" and "spirit".

Some philosophers maintain that recent developments in technology, physiology, and physical science show that the human nervous system with the mental behaviour it supports is essentially physical in nature,¹² whereas others claim to be able to prove that there are essential differences between men and machines.¹³

Philosophers who support the claim that there are essential differences between men and machines have tried examine the concept of human's and brain. Questions have been asked with regard to the nature of the brain, can thought, feelings and emotions be represented by a set of rules that can be reproduced in a machine? Is the brain nothing more than an incredibly sophisticated computer?

The debate over the essence of human rationality is literally thousands of years old. Plato and Aristotle were among the first to divide human capabilities into two distinct areas : the physical body and rational mind. If the mind is considered to be separate from our physical, " animal" nature, it is not a large step to believe that the mind operates as a useful machine.

The mechanistic view is the belief that the workings of the mind can be described in terms of the electro-chemical functioning of the brain. Containing about 100 billion cells with complex interrelations that are still only dimly

understood, the brain would have to be considered an extraordinary intricate machine and certainly an unusual one in that it is composed of living material -- a "meat machine"

Is the development of intelligent machines just a matter of achieving a more complete understanding of the workings of this meat machine and programming a computing machine accordingly? Will a computer so programmed not just simulate intelligence not just appear to be intelligent - but actually be intelligent in the same sense that people are intelligent? Will a computer someday be able to say "Computo, ergo sum"?

Although some scientists say that some day a computer will be intelligent many people feel that a computer will never think like they do. No matter what the scientists may say, many of us instinctively feel that the workings of our minds can never be programmed into a machine and that no computer ever will have a mind of its own. While conceding that someday it may be possible to program a computer so that it appears to be intelligent, it is difficult to accept the proposition that a machine actually can be made to think in the sense that people think, to understand information rather than just to process data.

Philosopher Hubert Dreyfus, a persistent critic of AI, refuses to subscribe to the mechanistic view of the human mind. "If one thinks of the importance of the sensory - motor skills in the development of our ability to recognize and cope with objects, or of the role of needs and desires in structuring all social situations, or finally of the whole cultural background of human self - interpretation", he maintains, "the idea that we can simply ignore this know-how while formalizing our understanding as a complex system of fact and rules is highly implausible."¹⁴ Researchers and philosophers claim not only that artificial intelligence has not yet reached its goal of truly simulating human reason -- an

argument no one can deny but also that such a goal is unrealistic. The intellectual leader of this group is Hubert L. Dreyfus, the author of what computers can't Do. Dreyfus and others believe that AI researches are basing their hopes on assumptions that are incorrect. Dreyfus sees four such assumptions.

(1) the biological assumption that the brain is physically similar to a computer. Information is processed by the brain in ways that are closely related to the digital (on-off) method in present - day computers.

(2) The psychological assumption that the mind functions according to rules that can be quantified and translated into digital code.

(3) The epistemological assumption that all knowledge can be coded into digital form.

(4) The ontological assumption that world knowledge can be broken down into independent pieces that are totally situation free and that can be so programmed into a digital computer.

As these assumptions form the core of AI research, Let us look at each of them closely.

(1) The Biological Assumption :

Neurophysiologists have long known that the brain neurons of the higher animals (including those of humans) fire all - or - nothing bursts of electricity. Many computer scientists and others hope that this proves that the brain functions as a binary computer. If each of those bursts contains one bit of information coded in an on-or -off fashion, perhaps this method of coding can be applied to computers. All we have to do is build a machine that functions mechanically as a brain. Once this is accomplished, information can be input in a way similar to the way information is given to humans. The machine

physically based on the human brain would be able to function as the human mind does.

One problem with this assumptions is that -- despite the electrical bursts there is no evidence that the brain processes information digitally.

The difference between digital and analog processing is in how the information is obtained and used, not in how it is conveyed. Both a light switch and a variable - speed electric drill receive information through on and off bursts. However, the light simply determines if the current is on or off, while the drill measures the intensity of the signal. If each burst of electricity pulsing through a brain neuron contained the code for a complete bit of information. Simply by the fact that the neuron is on or off, then the brain would be in fact a binary or digital computer. But it has been discovered that a charge passing through one axon would release an electronic message that would be different from that released through another axon. So, brain activity may consist of thousands of different, finely graded charges emanating from only one initial charge. This seems to show at least that the brain recognizes analog signals. Whether this is so or not, it is certain that the brain cannot be understood simply by studying the individual neurons and the complex organization of the brain makes constructing such a system impossible.

Finally, even if the brain functioned digitally, it would still be too complex to be duplicated exactly. We are still far from building a machine that can operate heuristically using such a large array of neuron bits. As seen with the perception program, such a system might be able to provide output similar to the input, but using these random bits to process material so that the output is useful has never been accomplished.

For these reasons, many AI researchers have abandoned the hope of building a human brain and instead are attempting to discover how the mind

works. They hope that mind functions, if not brain functions can be digitally coded.

(2) The Psychological Assumption

The psychological assumption is that the mind, if not the brain, functions as a digital computer. How the brains stores and processes information is irrelevant. Humans go through two steps in making sense of the material world. First, they translate raw images, sounds, tones, reflections of light, and so on into integrated wholes. For example, a collection of tones becomes a song, a collection of light and dark images becomes a picture, and a collection of lines traced across a screen becomes a television image.

Second, they combine, relate, separate and otherwise manipulate these integrated, meaningful wholes. We read a news account of a military adventure and speculate on the chances of all - out war. We listen to a song and compare it to other songs we have heard.

Can computers use rules to manipulate data in these ways? Dreyfus points out that the programmer must program these manipulative abilities into the computer. He states : "The role of artificial intelligence is to program the computer to do this translating job itself. But it is by no means obvious that the human translator can be disposed of".¹⁵

In other words, Dreyfus believes that a system is not truly intelligent if it cannot understand spoken language, interpret visual images, and even identify musical pieces. He realizes, of course that progress has been made in these areas; but he asserts that it has been very limited. And the reason for this is that global rules of translating this type of information have never been found. Instead, researchers have contented themselves with a few very specific rules

that will work only in very limited environments using these rules in a computer would require continual human intervention.¹⁶

In refuting the psychological assumption, Dreyfus focuses on the basic idea that nervous system operations can be understood in terms of elementary operations. He attacks the idea that humans use the same operations that machines use when tackling similar problems.

For example, the only way that existing computers can estimate depth is through texture gradients. According to this assumption, then, when humans unaided by machines, make correct estimates of depth, they must consciously or unconsciously make a similar analysis of texture gradients. But Dreyfus points out that assuming that the mind must go through the same process would be similar to assuming that the planets must solve differential equations because they stay in their orbits around the sun. Even an ion solution exhibits a perceptual process in reaching equilibrium. Does this, Dreyfus asks, prove that the ion solution has gone through the same steps that a digital computer would have to go through to make a similar calculation? His point is that even if all psychological information processing could be done digitally, this does not mean that the mind goes through a similar process. He further asserts that if we are to assume that a subject is using a certain methodology, then the subject must at least sometimes be conscious of using that methodology. Chess masters, for example, may not always be conscious of their methods of problem solving, but if they never report going through a certain process, it would be incorrect to assume they do. This is true, even with a chess - playing program, which must go through that process in order to choose the same move.

According to Dreyfus, with some problems - even very simple ones - no set of rules is adequate enough to describe a solving routine. He cites as an

example the task of selecting a red square from a collection of shapes of different colors. If a child were given this task, he or she might simply be given three rules : Look at the objects, think about the shape to be chosen, and make a selection. A computer would have to be given much more complex rules. For example, it would have to count the sides of each shape and find one shape with four sides, all of which are equal. But what is a side? The computer might take random points and see if they fall on a line that is the shortest distance between two end points. But how can these points be found? There are no "points" in a jumble of shapes. Humans find points unconsciously, and the counting of the four equal sides may also be done unconsciously. And what about instructions for finding a red square among other squares of different colors. Why Dreyfus asks, do instructions always end at a certain point? That is, why is there always some point in programming a computer, when a human must do some interpreting? Dreyfus claims that it is approximately at this point -- when the human interpreter must step in - that the analogy between mind and computer breaks down.

One reason machines have so many problems and need interpreters is that they cannot distinguish between significant and insignificant data, between relevant and irrelevant input. All existing programs require that human programmers explain which data should be used and which should be ignored.

The conclusion to be drawn is that although a person is a physical being who receives input in ways that conform to laws of physics and chemistry, the way that information is processed and stored may have little to do with physics or chemistry. It may be impossible to use a machine to recreate or even simulate human behaviour in a real sense.

(3) The Epistemological Assumption :

Even if we grant that human beings do not function according to certain rules, is it not possible to formulate rules that govern human actions? The difference here is between knowing how humans perform a task and formulating rules about human behaviour so that a computer can simulate such behaviour. That all human behaviour can be thus formulated is called by Dreyfus the epistemological assumption.

In a previous example, we spoke of the planets travelling around the sun they are incapable of solving the differential equations that keep them in their orbits. But it is possible to formulate rules that govern their behaviour such that artificial planets can be built to behave in the same way. Another example is a man riding a bike. His ability to keep his balance can be expressed in rules of physics. Obviously, he is not all aware. That he is following these rules. But his behaviour can be expressed and duplicated by a robot - using those rules.

So, if all human behaviour can be described by means of such rules, a computer can theoretically be built to simulate human behaviour perfectly the question then is : can all human behaviour be expressed as a set of rules:

Dreyfus provides a number of examples of human behaviour that cannot be reduced to sets of rules. One area is language. Can a set of rules be used to make sense of language affected by syntax and semantics. It is certain that a good deal of language can be understood through rules. But although a native speaker may function in a linguistically lawful manner most of the time, he or she will occasionally (or more than occasionally) break a rule. And this breaking of rules is where natural - language researchers often get stuck and where Dreyfus believes he proves that human behaviour cannot be formulated.

Take the sentence, "The idea is in the pen". A natural - language process or given knowledge about the size of various objects and about the nature of tangible and intangible objects would be at a loss to decipher this sentence using the rules coded in its program. Yet a native speaker would conclude that, although odd, the sentence does make sense. It probably means that the pen is a tool by which ideas are written down.

So what would most programs do with a sentence like that ? A program can treat a sentence in one of two ways. It can see if the sentence follows a set of rules and interpret it according to those rules. This cannot be accomplished with a sentence, so the program must resort to the second method : to relate the sentence as best as the program can to either past sentences or to some knowledge of the world and to take an educated guess. The difference between the machine and the human is that the human has a third alternative : the human can realize that the sentence is odd while still understanding it with a high degree of certainty.

Another problem occurs when a sentence breaks the rules. A human would have little trouble with the phrase, "snow drive careful", but a computer given rules of usage would be confounded. A limited solution is to include in the computer rules even for poor grammar. But there will always be a situation that defies all the rules. Just one example of this is enough to disprove the intelligence of a machine.

In fact, most natural - language machines are programmed to learn from the user. A salesman using a natural - language front - end system to gain access to a data base is not likely to type " who buyed form I today". So, programming a rule that governs this type of sentence is probably a waste of computer space. But the salesman might type "I low'd we do today". When a computer reads a sentence with which it is not familiar, it normally queries the

user and then adds to its program new rules based on the knowledge gained from the user. But Dreyfus says that systems such as these, while useful, prove that computers will always fall behind humans and that human level intelligent behaviour in machines is impossible.

The ontological Assumption : This assumption - that facts about the world can be defined, stored, and retrieved in a reasonable way -- is, according to Dreyfus, the most fundamental in AI. The first and most basic problem concerns the number of facts that the computer would need. Dreyfus Quotes Marvin Minsky ¹⁶ as saying that a computer, in order to function with intelligence in the real world, will need approximately 100,000 facts ("One can't find 100 things that he knows 1,000 things about"). Limiting the number of facts in this way doesn't encourage Dreyfus. Even if all knowledge could be expressed by 100,000 facts, how could they be organized and stored so that they could be retrieved in a reasonable amount of time? An acceptable system of classifying knowledge in one field has yet to be discovered. Classifying knowledge of the multitude of fields of human endeavour is a problem without an imaginable solution. And even if such a classification were possible, there would have to be a system that would allow the computer to know when any one particular field should be explored.

Furthermore, understanding something in a specific field usually also requires knowledge of other fields. For example, for a program that reads handwriting, the obvious field of knowledge is that of the physical makeup of letters in all their various forms. But when humans attempt to read illegible handwriting, this bring into play their knowledge of the subject that is written down. Illegible letters or words are deciphered using the context of the sentence.

Another problem is how to deal with the situation that does not consist of a collection of facts, how to deal with recognizing an embarrassing situation for example, or with determining that something is humorous.

Dreyfus points out that AI programs have been fairly successful in place recognition. In the more vague situation recognition, however, little progress has been made. For example, programs have been developed to recognize the place, home AT (I, HOME). The place (home) is clear but the situation is not so clear. I may be in the backyard; but I still consider myself at home. Or I may be in my house, but because I had rented it out, it is no longer my home. How would it be possible to program all the information necessary to explain the renter - rentee relationship? Or how far from home represents "at home" ? If a family had been to Europe and then returned to their native country, they might consider themselves "at home" even if they were still a thousand miles from their house. According to Dreyfus, AI researches concentrate on physical states because in most cases they can be identified and qualified. Situations are too slippery for digital programming.

The problem of understanding ambiguities also shows the need to be able to refer to many different categories of knowledge. For example, in the sentence "He follows Marx" there might be a question as to whether "Marx" refers to Karl or Groucho. The answer lies in the context in which the sentence is set - in the setting, in the tone, in the age of "he", in the political outlook of "he", and so on. The number of possible categories of interpretation in this one simple example is impossibly large. And within each category, the number of facts can be in the hundreds of thousands.

Even if we could develop a program that determines which facts are relevant to a particular situation, the facts themselves might be ambiguous. In the preceding example, "he" could be a communist who followed Groucho for

an autograph. The key fact might be that Groucho had been in "his" neighbourhood recently. How would the computer determine which fact was more important? Even a computer programmed to store, select and assign priorities to all the facts based on knowledge both of place and of human intercourse (the situation) would still be uninformed as to the world of nonintercourse (living alone) and nonunique intercourse (tribal living). And then there is the whole range of non human activity.

One proposed solution to the problems in classifying knowledge comes from an understanding of how humans learn. Instead of knowledge being classified by subject, it could be acquired and stored in a continuum of learning. The continuum could be classified according to this step - by - step knowledge building. Our knowledge about each new chair we come across would relate to the last chair we had seen when the computer sees something it guesses might be a chair, all the knowledge that it learned, chair by chair, would be recalled. But how to program such a hierarchy of concepts? Of course, we could begin with the few concepts that a child is born with and build the structure in a way that is similar to the way a child learns. But leaving aside the need to limit the computers acquisition of a lot of irrelevant data - which a child automatically forgets - we still have no idea how the infant grows from a set of fixed responses to an ever widening set of variable responses.

Human knowledge, Dreyfus argues, is not programmable. The human ability not only to store hundreds of thousands of bits of information but also to continually classify and reclassify them so that one piece of information might serve to help in many different situations is beyond the scope of a binary computer.

Although Deryfus sees his work as a refutation of the belief that artificial intelligence is possible, his work also has another value : It lays out many of

the inherent limits to AI programming. It is likely that many, if not all, of the problems that Dreyfus points out will never be solved. And in fact, artificial intelligence, by his definition - a machine that can function in all realities as well as a human may never exist. But whereas Dreyfus's ideas point toward dead ends, toward goals that may never be accomplished, they also provide hints to the detours around those dead ends.

Machines may never be able to hold a reasonable conversation with any human who happens to saunter by. But they may be able to function well in the company of geologists or of people who work in other limited domains. This might not be enough for us to call these machines "intelligent". And perhaps the term "artificial intelligence" promises more than can be delivered. But there is no question that AI systems have improved, and will continue to improve, human life. What may be necessary, though, is a redefinition of goals.

On the basis of the above discussion we can say it is not possible for machines to think and to possess such human attributes as free will and a sense of aesthetics. Machines that think at least as well as humans do, do not yet exist. And there is no sure way of predicting whether developers will come up with the right combination of hardware and software to accomplish the feat of producing such machines.

One argument against the possibility of thinking machines comes from Kurt Gödel. In his Incompleteness theory, he has shown that within any logical system are theories that can neither be proved nor disproved. In other words, certain functions must be performed outside the system. For one system to be able to prove these theories, it must be logically inconsistent. But, because machines must be programmed in a logically consistent manner, they will not be able to function in some areas of thought. Humans, however, are able to

incorporate inconsistencies into their thought processes and thus do not suffer from this problem.

Even if thinking machines exist will they exist in the flesh? It is impossible to observe the process of thinking in humans. We have something known as self awareness i.e. the ability of a being to refer to itself, to be able to think. "I feel cold" or "I am satisfied" This self awareness allows a person to change his or her behaviour. A person feels cold or happy or hateful and responds in a manner that is appropriate to his or her behaviour pattern. Such things are not existing in machines.

Another aspect of intelligence is aesthetics. Can a machine draw a picture or write a poem? Aesthetic pleasure varies from society to society. What pleases a group of people is determined by rules that art and literature critics are fond of discovering. Programming these rules into a computer is not a difficult problem.

But can a computer spontaneously - and, unprovoked by a human - decide to write a poem or draw a picture? The question makes us reflect on the question whether computers can have emotions.

Consider the words of Sir Geoffery Jefferson :

"Not until a computer can write a sonnet or compose a concerto because of thoughts and emotions felt, and not by the chance fall of symbols could we agree that a machine equals brain - that is not only write it but know what it has written. NO mechanism know what it has written. NO mechanism could feel (and not merely artificial signals an easy contrivance) pleasure at its successes by flattery, be miserable at its mistakes, be charmed by sex, be angry or depressed when it cannot get what it wants".¹⁷

Nobody really knows very much about how the human mind works. We know a few basic facts about the brain. We know that the brain contains at

least 100 billion nerve cells, known as "neurons", each one linked to thousands of other neurons one linked to thousands of other neurons by microscopic gaps called "synapses". We know that these neurons, when stimulated, fire electro-chemical impulses across these gaps at the rate of a thousand per second. This is what thinking is : the rapid firing of electro-chemical transmitters across infinitesimal gaps inside the skull.

We know, too, that there are three distinct regions of the brain and that they correspond to different phases of evolutionary development. There's reptilian brain ", a primitive lump at the base of the skull that takes care of such instinctive survival functions as sleeping, breathing, and fighting. Surrounding that is the brain of the ancestral mammal which evolved some 100 million years ago to handle such emotions as anger, love and fear. And finally there is a much larger outer layer the cerebrum, that is responsible for most conscious thought. We used to think that in most people the left side of the cerebrum took care of linear and analytical types of thought logic ; language, mathematics - and the right side handled holistic processes such as aesthetics and creativity but recent findings have cast even that theory in doubt. And we still don't know how memory works or even where it is located. For that matter, we have only recently concluded that what we call "mind" is really the activity of the brain -- what the brain does -- rather than some immaterial phenomenon that exists independently of the body.

We are, in short, still largely in the dark. Our position has been compared to that of an electrical engineer who has never seen a television before and is expected to explain its inner workings, not by going inside and tearing it apart but by studying the signals it receives and what comes out on the screen. We have no way to experience the electrochemical excitation of our neurons. We know the mind by what it produces - language, vision,

consciousness, thought. We know the input and the output, but very little of the processing in between.

With computers, the situation is exactly the opposite - the processing is all we know. Programmers can trace a function with a tap on the keyboard serious computer hackers can translate a program into machine language - zeros and one - and tell you how it works on the binary level. Circuit designers can follow the blip of electrons through the microscopic maze of a silicon chip. But the input and the output of intelligent behaviour those are the questions. What goes into it? And how do you know when you see it?

Another problem with the cognitive modeling approach is that the kind of things that are easiest for humans to do - such as recognizing a friend on the street, or understanding one's native language -- are precisely the things that are most difficult for computers. Artificial - intelligence researchers have been much more successful at getting computers to display intelligence in areas that humans can master only with a lot of effort, areas such as medicine or geology.

According to Dreyfus what it means to be a human on Earth, will forever resist formalization. In attacking formal theories the mind, Dreyfus is saying that there are things about the mind which we will never understand.

In the three and half centuries since Galileo's trial, science had explored and explained almost every aspect of the physical world, from the infinitely large to the infinitesimally small. Applied to the structure of the atom, the formal, reductionist view had proven explosive, apocalyptic. Now science was proposing to apply this same tool to the mind to reduce mental phenomenon to their essential features, just as physical phenomena have been reduced to waves of dancing particles. But this was a different proposition, for the mind is not part of the physical world. The mind exists beyond the physical. It's not

just the neurons, it's what the neurons do. It's invisible intangible, unknown - and perhaps as Dreyfus would say, unknowable.

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CHAPTER IV

THE PHENOMENOLOGY OF THE SELF / CONCIOUSNESS / EGO

Nothing in recent philosophy approaches the supreme confidence with which Husserl announced his triumphant beginning of a new science of philosophy, an "absolute" discipline achieved by means of an elaborately worked out method. It was advanced as the real positive outcome of the philosophical efforts of the centuries. In fact all preceding philosophers were classified by him as either adumbrating or falling short of the ideals of phenomenology. There is something majestic and heroic about the tone of Husserl. His is not an opinion hastily advanced. More than fifty years of consecutive reflection and hard work, resulting in numerous superb examples of descriptive analysis, have made it necessary to greet his claim with respect and to give his contentions a hearing. The thought and contributions of one of the most penetrating and thorough of the philosophers of the last century deserve more widespread attention than they have received. A thoroughgoing consideration of his philosophy is now made all the more necessary in view of the insistent claim that his philosophy is still unknown,¹ and the philosopher's own repeated assertion that he had been misunderstood.

Prominent in philosophy at the close of the nineteenth century was a standpoint known as "psychologism". The philosophy of a given period has always been conditioned and influenced by the leading scientific ideas, particularly, by those which were new. Thus rationalism in modern philosophy reflected the advances in the mathematical and physical sciences. In the period under consideration the rising science of psychology had a two fold significance for German philosophy : it suggested a sure way of solving perplexing problems of logic and the theory of knowledge, and it afforded either a substitute or a

supplement to the idealistic standpoint in philosophy. Psychologism had already been prominent in English philosophy, J.S. Mill having been a recent representative. In Germany, Wundt, Sigwart, and Lipps may serve as example. Natorp, Brentano, Stumpf, and later Frege are of particular importance, as providing the main historical background for Husserl. The reaction against psychologism was clearly illustrated in Natorp's early writings.

Psychologism was an extreme point of view and a reaction was inevitable. Natorp's review of Theodor Lipps 'Basic Facts of Mental Life'² is an early indication of such a reaction. Lipps regarded psychology as constituting the basis of philosophy, but Natorp expresses doubt as to the possibility of "basing" logic and the theory of knowledge upon psychology. Lipps considered such topics as the psychological ground of the principle of contradiction and the general function of concepts in knowledge. In this view, the genetic derivation of the basic laws of knowledge out of original facts of psychical life was identical with their "epistemological" foundation; the theory of knowledge was a branch of psychology. Every one will concede to Lipps, Natorp remarked, that psychical facts are represented in the laws of knowledge, and that these facts, as psychical, are also an object of investigation for psychology. Knowledge is admittedly only a psychical process, in the form of concepts and theories, or in general as consciousness. Even the truth as something objectively valid must be investigated by means of the consciousness which thinking beings have of it. The concepts and the truth of geometry are psychical facts in that sense, and yet Euclid's axioms are not regarded as psychological laws by anyone, nor does anyone suppose that its objective certainly depends, upon the psychological understanding of geometrical presentations. Natorp merely emphasized the fact that the consciousness of truth is independent of all genetic explanation by means of

general psychological connections, and called attention to the independence of an objective foundation of the principles of knowledge. The critique and the psychology of knowledge, in his view, require and condition each other. An indication of his point of view is given by his assertion that a law of knowledge is a priori, just as every law is a priori as opposed to that which is subject to the law.

Natorp's early reaction against psychologism is also expressed in a paper on the objective and the subjective foundation of knowledge³, in which he argued that there is either no logic, or it must be build entirely on its own ground, and not borrow its foundations from any other science. Those that make logic to be a branch of psychology assume that psychology is the basic science, and that logic is at best an application of psychology. Natorp asserted that not only the meaning of logic but an application of psychology. Natorp asserted that not only the meaning of logic but the meaning of all objective science is ignored and almost perverted into its opposite, if one makes the objective truth of knowledge to be dependent upon subjective experience. To base logic upon subjective grounds would be to annul it as an independent theory of the objective validity of knowledge. Hence Natorp was not only defending sense of the term, but also the claim to objective validity that is made by all science, when he maintained that the objective validity must also be objectively founded. He formulated as a presupposition of objective science the precept that true scientific knowledge may depend only upon those laws which can be brought to certainty in the inner connection of science, and which are developed in a logical form, independently of all presuppositions that might be introduced from elsewhere. Thus all recourse to the knowing subject and its capacity for objective science is ruled out as completely foreign. Natorp was very clear in affirming that the objectivity of science requires the

"overcoming" of subjectivity. His view of scientific truth is compatible as far as it goes, with Husserl's later ideal of a rigorous science of philosophy, but it does not go so far as even to suggest the idea of a universal science, or of a "root-science" of philosophy. The object of Natorp's criticism was psychologism, however, and he succeeded in formulating the issue clearly. He pointed out that scientific truth as illustrated in mathematical natural science, becomes certain for us on the basis of objective presuppositions, and he insisted upon autonomy of such science. The mathematician and the physicist were not to look for the ground of the truth of their cognitions in psychology.

The expression "objective validity" was used to indicate independence of the subjective aspect of knowing. Its positive meaning was less clear to Natorp. The idea that there are objects outside of and independent of all subjectivity would be one answer, but Natorp believed that the "being-in-itself" of the object was itself a riddle, in conformity no doubt to his unresolved Kantianism. He held that the object's independence of the subjectivity of knowing could only be understood by means of an abstraction, for objects really are given to us only in the cognition that we have of them. Thus it would be necessary to abstract from the content of subjective experience. In Natorp's view, the true beginnings and bases of knowledge are final objective unities. In mathematics it is not the phenomena that are basic, but rather the fundamental abstractions, which are expressions of the unity of the determination of possible phenomena, such as point, line, straightness, and equality of magnitude. All of these involve the fundamental function or "objectification", and the Kantian and Platonic "Unity of the manifold". It is only in this way that the uniquely determined "phenomena" of science are possible. Natorp argued that there must be a determining and "positing" function, in order to make this positivity possible. In a later discussion⁴ he

understood to see how the kind of foundation which he used was objective in the sense in which mathematical procedure is objective, and to show that formal logic must be based upon the logic of objective knowledge, or transcendental logic.

Another important idea of the time was the ideal of freedom from presuppositions in philosophical procedure. This ideal was taken by Husserl in the Logical Investigations as an obvious requirement that is to be imposed upon epistemological investigation.

It is possible to point out the direct influences upon his thought at the beginning of his career. They were derived from a few sources to begin with although Husserl was later to approach philosophers who were at first avoided or neglected. Natrop, Volkelt, Schuppe, and Rehmke may be singled out as typical representatives of the rising generation of idealists whose works were to be prominent in the philosophical literature of the coming decades. Their published writings were either closely read by Husserl, as in the case of Natrop, or they may be regarded as developments parallel to Husserl's which responded to similar motives. The Orientation to Kant's philosophy, always prominent in Germany, was to be of great significance for Husserl. Brentano, who is not easily classified, combined scholasticism and the philosophy of Aristotle with empiricism. He inaugurated a fruitful period of development in psychology, Stumpf being one of his earliest productive disciples. The modern development of symbolic logic which was begun in England by Boole, was carried on in Germany by Schröder and Frege. These scholars may be cited particularly in reviewing the philosophical scene into which Husserl entered when he joined the faculty of the University of Halle in 1887. They represent a special section of the German philosophical world of the time reflecting his early interests.

Husserl was a Disciple of Brentano "My teacher Brentano" was an expression frequently heard in Husserl's classroom. Intellectually his debt to Brentano was considerable in the early period; but it was the moral element and the personal example of Brentano which led him to choose philosophy as a life work, and which constituted a lasting influence upon him. Husserl was a grateful student of Brentano, whom he accompanied, along with Stumpf on occasion, during vacation trips. He was not at the time prepared, however, to profit fully by such contact. The effectiveness of Brentano as a teacher is sufficiently shown by the number of noted scholars owing their start to him, a group including Stumpf, Husserl, Meinong, Höfler, and Marty.

Among the men who exercised a lasting influence upon Husserl was Masaryk, whom he met during his first semester in Leipzig, in 1876. Husserl was seventeen years of age at the time, and Masaryk, his senior by eight years and already a doctor, guided his younger compatriot. Because of Husserl's dominant interest in astronomy, Masaryk's advice that he go to Brentano was not taken at the time. After three semesters he went to Berlin; where he found in Weierstrass a teacher who impressed upon him the ideal of the impersonal devotion to truth of the real scientist. Having taken his degree and completed the customary year of military service in Vienna, he renewed personal contact with Masaryk, who was then instructor in the University of Vienna. It was then that he heard Brentano, and made the crucial decision to become a philosopher. His feeling of personal indebtedness to Brentano outlasted the inevitable philosophical break with the latter, a step which cost him much inner struggle.

Husserl has left a revealing tribute to Brentano in his contribution to a Brentano memorial volume.⁵ He attended Brentano's lectures for two years, from 1884 to 1886, after having completed his formal university studies in

which philosophy had been a minor subject. Brentano lectured on practical philosophy elementary logic and its necessary reforms, and also on selected psychological and aesthetic questions. Husserl was then in doubt as to whether he would devote himself to philosophy or remain with mathematics, and Brentano's lectures decided his choice. Although he had been repeatedly advised by his friend Masaryk to study with Brentano, he relates that it was out of curiosity that he first attended the lectures, for Brentano was much discussed in Vienna at the time, admired by some, and reviled by others as a Jesuit in disguise. He was impressed from the beginning by the slender form with the mighty head. The expressive facial lines seemed not only to bespeak mental labor, but also deep mental struggles. Brentano impressed him as one who was always conscious of having a great mission. The language of the lectures was free from all artificiality and display of wit. The peculiar soft, veiled, tone of voice and the priestly gestures made him appear to be a seer of eternal truths and an announcer of another world. Husserl related that he did not long resist the power of his personality despite all prejudices. It was from these lectures that he gained the conviction that Philosophy is a field for earnest work which can be treated in the spirit of the most rigorous science and this led him to choose philosophy as a life work.

Brentano was most effective in the seminars, in which the following works were studied. Hume's Enquiry concerning Human Understanding and Principles of Morals, Helmholtz's speech on "The Facts of perception", and Du Bois-Reymond's "Limits of Natural Knowledge". He was at that time especially interested in questions of descriptive psychology, which he discussed with Husserl. In the lectures on elementary logic he treated the descriptive psychology of continua and took account of Bolzano's Paradoxes of the Infinite, and also the differences between "intuitive and non-intuitive", "clear

and unclear" "distinct and indistinct", "real and unreal", and "concrete and abstract" ideas. Other topics included the investigation of judgement and descriptive problems of phantasy. How great an influence was due to Brentano is amply shown by Husserl's early writings as well as by later investigations in logic and the theory of knowledge. His indebtedness to Brentano was explicitly and gladly acknowledged. It is interesting to note that Brentano felt himself to be the creator of a *philosophia perennis*, although he did not remain fixed in his views and never really stood still. He required clarity and distinctness of fundamental concepts, and regarded the exact natural sciences as representing the ideal of an exact science of philosophy. This ideal was opposed to the tradition of German idealism, which was in his view degeneration of philosophy.

Brentano is best known for his psychology from an Empirical standpoint (*Psychologie vom empirischen standpunkt*, 1874). The recent publication of his works by Kraus and Kastil⁶ has made more clear the reasons for the extraordinary influence exercised by him. Husserl was indebted to Brentano for his interest in the concept of intentionality and the descriptive investigation of inner perception, and undoubtedly learned how to become a philosophical investigator by being shown concrete examples of descriptive analysis and how to recognize problems. It was inevitable that his development should run parallel to and overlap to some extent that of Brentano. Although it would also be easy to overdraw the amount of Husserl's indebtedness, it may be said that the study of the main elements of Brentano's thought is indispensable for the genetic understanding of phenomenology.

When Brentano left Vienna he even went so far as to say that the natural scientific method is the only correct one, and that this has now been settled.⁷ 'No where, therefore, is the method of the natural sciences rejected

by Brentano (nor is it later on by Husserl). Yet we can say that Brentano had become conscious of the limited applicability of the inductive method. It is certainly correct, but has a limited validity because it is not in a position to provide the foundations for the a priori laws which are at the basis of the normative sciences. He calls the attempt to do this 'an aberration' of scientific method.⁸ Brentano, like Husserl, was apprehensive of the relativistic consequences of a monopolisation of the inductive method in naturalism and historicism. This method cannot answer questions about what should be, or, as Husserl said in Die Krisis der Europäischen Wissenschaften und die transzendente Phänomenologie⁹ (the crisis of European science and Transcendental phenomenology) "It is not in a position to answer the "highest and most ultimate questions", "The specific questions pertaining to mankind". It is precisely because this method fails here that descriptive analysis is needed. It is characteristic of Brentano's 'rationalism' that he does not leave the question, 'What should I do?' to the irrational powers of Weltanschauung and myth that which is good and right is not to be an arbitrary dictate of some positive power¹⁰. These are, after all, typical 'questions of reason', according to Husserl. Practical reasons must be subordinated to rational norms. Brentano finds these in an a priori descriptive analysis of consciousness.

Science, therefore, will not be diminished in order to make room for the belief in a Weltanschauung. No, natural scientific reason must make room in this area for another form of reason. Husserl's logical treatise shows that he was a good student of Brentano in this respect as well. It is not reason that is to be rejected, says Husserl, but the aberrations of reason under the spell of the natural sciences. Both the positivism and the historicism of the philosophy of Weltanschauung are rejected by Husserl when it comes to establishing the foundations of the normative sciences. The correct method here, says Husserl,

is the analysis of essences. In this way we can construct a philosophy that is not one of the natural sciences but is still, 'a rigorous science'.

All knowledge 'begins with experience', but it does not, therefore, 'arise' from experience, as Kant has said.¹¹ The basis of the judgement is the universal object as ontic correlate of the universal concept or the universal meaning. When Husserl speaks of knowledge 'purely from the concepts', he means knowledge based upon the essences, the ideal objects.¹² This knowledge is analytic as well, but it analyses essences rather than concepts, and could thus be called ontologically analytic. Heidegger was right when he wrote, 'To disclose the a priori is not an a prioristic construction. Edmund Husserl has not only enabled us to understand. Once more the meaning of any genuine philosophical empiricism, he has also given us the necessary tools.¹³

The concept of intention is important both for Brentano and Husserl, although their use of the term was by no means the same. It means, broadly, a relationship to an object or objectivity of any kind. Whether in purely cognitive experience, or in willing, wishing, etc. As used in phenomenology, it names a universal and essential characteristic of consciousness. The term intention is derived from medieval scholasticism, but the phrase "intentional object" was used by Brentano, so that the suggestion of a scholastic theory of knowledge was avoided.¹⁴ This concept enabled Brentano to distinguish psychological and physical phenomenon.¹⁵ He held that everything psychological is characterized by that which the scholastics called the intentional, or mental "inexistence" of an object, and which he called the relation to an object or immanent objectivity. Each psychological phenomenon contains something as an object, although not in the same way. Thus in a presentation something is presented, in a judgement something is acknowledged or rejected, in love something is loved, and in desire something is desired. This "intentional

inexistence" was regarded as exclusively peculiar to psychological phenomena and hence they were defined as phenomena which intentionally contain an object in themselves. In a note written in 1911, Brentano corrected a misunderstanding resulting from the use of the expression "intentional inexistence".¹⁶ Because this expression had been taken to involve purpose and the pursuit of a goal he proposed to avoid its use. He observed that the scholastics used the expression "objective" more frequently than "intentional". What is the question, in his view, is that something is an object for a psychological being, and is to a certain extent present in his consciousness. He chose the term "intentional" because he thought the danger of a misunderstanding would have been still greater if he had described that which is thought, as it is thought, as "objectively existent".

In his psychology from an Empirical standpoint Brentano did not restrict objects to real things. He later changed his point of view, holding it to be erroneous to admit "irreal" objects¹⁷ as Husserl and Meinong had done on the basis of his earlier view psychological phenomena are perceived only in inner consciousness, whereas only outer perception is possible for physical phenomena, a difference he believed to be sufficient for the characterization of psychological phenomena. Physical phenomena were regarded as existing merely phenomenally and intentionally, as distinguished from psychological phenomena, which exist actually as well as intentionally.¹⁸ Thus knowledge, joy, and desire exist actually, but color and heat exist only phenomenally and intentionally examples of physical phenomena¹⁹ are a figure or a landscape that I see, and heat, cold, and odor that I sense.

In a supplement to the "classification of psychological phenomena", written in 1911,²⁰ Brentano stated that what is characteristic of every psychological activity is the relationship to something as an object. This is a more

satisfactory expression of his meaning, which is merely the fact that one has something, whether a thing or an essence, as an object, or that one is related to it mentally. the misleading interpretation of "immanent objectivity" as a mode of being of a thing in consciousness is avoided thereby.

Only when Brentano promoted psychology to being a science of vital intentional experiences was an impulse given that could lead further - though Brentano himself had not yet overcome objectivism and psychological naturalism.²¹ The development of a real method of grasping the fundamental essence of spirit in its intentionalities and consequently of instituting an analysis of spirit with a consistency reaching to the infinite, led to transcendental phenomenology. It was this that overcame naturalistic objectivism, and for that matter any form of objectivism, in the only possible way, by beginning one's philosophizing from one's own ego, and that purely as the author of all one accepts, becoming in this regard a purely theoretical spectator. This attitude brings about the successful institution of an absolutely autonomous science of spirit in the form of a consistent understanding of self and of the world as a spiritual accomplishment. Spirit is not looked upon here as part of nature or parallel to it; rather nature belongs to the sphere of spirit. Then, too, the ego is no longer an isolated thing alongside other such things in a pregiven world. The serious problem of personal egos external to or alongside of each other comes to an end in favor of an intimate relation of beings in each other and for each other.

Husserl said that without Brentano's researches 'phenomenology could not have come into being at all.'²² Brentano's descriptive psychology is doubtless very close to what Husserl originally took phenomenology to be. But in the philosophical problems that are central to it, and in the precise analytic manner with which Brentano dealt with them, his descriptive psychology is also

very close to the 'philosophy of mind' or 'philosophical psychology', that is now of concern to philosophers in the analytic tradition.

The descriptive psychologist, according to Brentano, 'investigates the constituents of human consciousness, he seeks out its elements and attempts to determine as exhaustively as possible their modes of combination'²³. Unlike genetic or explanatory psychology, descriptive psychology is not concerned with the causal status of psychological phenomena or with the relations that they bear to physical and chemical processes. It is related to genetic or explanatory psychology; according to Brentano, in the way in which anatomy is related to physiology and in the way in which 'geognosy' is related to geology (hence the term 'psychognosie'). Unlike genetic psychology, descriptive psychology is an 'exact science'. It is the basic discipline of philosophy, (descriptive psychology is an exact science. It is the basic discipline of philosophy), according to Brentano; without it, he said, metaphysics, logic, ethics, and other disciplines of philosophy 'would dry up; like branches cut off from a tree.'²⁴

In the Vienna lectures of 1890-1, Brentano formulated several rules for descriptive psychologist, or 'psychognostician'.²⁵ For example, the descriptive psychologist must learn to notice what is there; moreover, he must fix upon what he has noticed in order retain it in the corpus of his data. This will involve describing, as accurately as possible, just what it is that he had noticed. (Brentano gives an excellent example of a psychological description, in his lectures on practical philosophy, when he shows how an 'act of will' may be constituted out of elementary psychological phenomena). These were the lectures incidentally, that Husserl attended.²⁶

There are three questions that immediately present themselves, and these are likely to be of especial concern to those who approach philosophy

from British and American traditions. (1) What is the difference between merely having an experience and noticing an experience? (2) How can one arrive at 'apodictic' universal laws by describing psychological phenomena? And (3) What are the 'elements of consciousness? By considering these three questions, we may make somewhat more clear just what Brentano took descriptive psychology to be.

The first of these questions ---'what is the difference between merely having an experience and noticing an experience? -- is familiar to many British and American philosophers as a result of Wittgenstein's penetrating discussions in part II, section XI, of his *Philosophical Investigations*. Brentano's own discussions of noticing in the lectures of 1890-1 is itself an important contribution to descriptive psychology. ²⁷

Our question might be put as a puzzle : 'If there is a difference between experience that is noticed and experience that is not noticed, how could it ever be known, unless someone notices an experience that he does not notice ?

To deal with the puzzle, let us first remind ourselves of what it is in our experience that is said to go unnoticed. The clearest examples are to be found in what has traditionally been called 'confused perception', as distinguished from 'distinct perception' (To be faithful to Brentano, we should note that we are here concerned with 'inner perception'). The experience of the colour violet, according to Brentano, involves as components the experience of red and the experience of blue. The experience of orange, similarly involves the experience of red and the experience of yellow. Thus Brentano said : 'A sense experience often comprises in its object a multiplicity of parts. The experience is related to the whole object in its totality, and therefore it must be related to the parts implicitly insofar as they are given with the object. But it may not explicitly relate to each of its parts.'²⁸ Another example of such a whole,

according to Brentano, would be the hearing of a chord, where in the particular notes that make up the chord are experienced only 'implicitly' but not noticed 'explicitly'. The distinction between 'explicit' and 'implicit' has its analogue in application to judgement; thus Brentano says that a man may notice what he is judging without noticing everything that is implicit in what he is judging. Still another sense in which experience may be said to escape notice, according to Brentano, is this : One may compare different types of psychological phenomena --- for example, seeing and hearing, or (what is of more interest to the philosopher) feeling and judging and then fail to notice certain respects in which they are alike, or certain respects in which they differ. (Brentano believes that many moral philosophers have failed to notice important analogies that hold between feeling and judging).

Our third and final question is : 'What are the "elements of consciousness" that constitute the subject --- matter of descriptive psychology" Brentano's answer to this question seems to me to be correct and to be of basic metaphysical importance.

One may wish to say that the 'elements of consciousness" are mere phenomena or appearances. But a phenomenon or appearance is an appearance to something, or to someone. And thus Brentano wrote : 'For what do we understand by a phenomenon? Something that appears to one. It is contradictory to assert that something exists as a phenomenon, but that there is nothing in itself to which it is a phenomenon. If one wishes to say, of that to which something appears, that it, too, exists only as a phenomenon, then one must say that there is something else to which it, in turn, appears only as a phenomenon, and that this something else exists in itself and is apprehended as such. 29

Brentano emphasises, moreover, that it is a mistake to suppose we are conscious only of phenomena or sense - impressions. The data of descriptive psychology are not restricted to mere sense experience. One is aware of oneself, not only as being appeared to, but also as thinking, judging, desiring, inferring, planning, remembering, endeavouring.

Here, then we have a partial exposition of the way in which Brentano deals with the question 'What are the elements of Consciousness?' He is led to conclude, correctly, it seems to me, that whatever the nature of the rest of the world one individual thing or substance, is the person who is the subject of experience. And this confirms an observation that Brentano makes about the value of descriptive psychology : It is of superior values, he says, since unlike the natural sciences it gives us direct knowledge of something as it actually is it enables us to know directly the nature of ourselves.³⁰

To ask what phenomenology is can mean either to inquire into Husserl's philosophical motives or to turn directly to his work and attempt to discern its immanent character and implications. The former leads to a history of Husserl's intellectual career, the latter to a systematic analysis of his philosophy. Obviously, the two are intertwined profoundly, but it is possible to explore them in contrapuntal fashion. As a discipline concerned with the description and analysis of phenomena, phenomenology has always maintained a structural stance with respect to its subject matter, that is, phenomenology is concerned with the essential form of what it investigates rather than with contingent content. Phenomenology's business is with the architecture of phenomena, not the steel and cement of buildings. Accordingly we may say that one of the prime characteristics of Husserl's thought is its insistence on formal aspects of phenomena.

There are three aspects of phenomenology which may help us to

understand the vitality of the question, what is phenomenology ? First, the reader coming fresh to Husserl is bombarded with a variety of different phenomenological emphases : the search for essence, the emphasis on the intentionality of consciousness, the methodology of phenomenological reduction, the repudiation of psychologism, the turn to transcendental questions, the radical thematization of the natural attitude, and the celebration of the life - world. How can Husserl be chasing so many hares in one hunt ? If we ask what phenomenology is in a searching, genuinely attentive manner, then we may begin to recognize that we can understand essence only by comprehending the status of intentional objects, that intentional objects are rendered available for inspection and analysis by way of reduction, that so long as we restrict ourselves to the psychological origin and actuality of thinking we can never attend to structural features of phenomena, that opening up the phenomenological field is, ultimately, to inquire into the conditions, a priori, for the possibility of there being a field at all, that the mundane world of our daily, taken--for--granted activities itself harbors the most complex philosophic commitments, and that the naive life we live as common-sense men possesses an infinitely rich logic upon which the whole of reality is founded.

Phenomenology is a science of "beginnings". The genuine beginner is an adept, not a novice. To begin, in this sense, is to start from the primordial grounds of evidence, from oneself as the center (not the sum) of philosophical experience. Such self centeredness is the opposite of philosophic hubris; it is confession of humility: The admission that unless the inquirer has turned to himself in full awareness of his life, he cannot claim to have sought, let alone found the truth.

In its very nature phenomenology is self-questioning, and the phenomenologist is; at every stage in his inquiry, raising the question, what is

the rigorous and fundamentally - warranted way into the characterization of the phenomena?

Despite the many expositions of Husserl's thought available today, there are still deeply grounded questions, reservations, and suspicions about its utility. Many social scientists are unconvinced that reliable, intersubjectively warranted knowledge can be attained through the method of what they take to be, if not a solipsistic, at least a deeply introspective philosophy. There is also an unwillingness to recognise the intuition of essences as anything more than another version of private, idiosyncratic, and insulated theorizing. The phenomenologist in these terms is a person who asks, "What is the essence of man, of society, of the state : " and proceeds to list dark properties, tricked out in transcendental garb, or else presents a series of generalizations which may be a priori true but are empty of any empirical content or consequence phenomenological banalities.

Phenomenology cannot present its method or its results in empirically verifiable terms because it does not accept empiricism as an adequate philosophy of the experiential world. Moreover, the phenomena at issue are either presupposed in empirical philosophy or unavailable to its procedures. So, for example, the phenomenologist is deeply interested in the logic of prepredicative experience, in passive syntheses of meaning, in the covert no less than the overt aspect of action, and in the many facets of intentionality which are involved in tracing out the sedimentation of meaning.

Phenomenology and empirical science operated at qualitatively different levels. They relate to but do not contradict each other. At the same time, it is necessary to understand that the relationship between the scientific and the phenomenological is an intimate one, for the phenomenologist, is concerned with the unity of philosophy and knowledge, with the reconstruction of

experience in its integrity. In these terms, Husserl maintains that phenomenology can provide a foundation for the conceptual vocabulary and grammar of such a discipline as psychology. But phenomenology is not to be confused with psychology. Husserl writes :

..... I may state from the outset most emphatically, in the face of prevailing and far spreading misinterpretations, that the pure phenomenology is not psychology, and that is not accidental delimitations and considerations of terminology, but grounds of principle, which forbid its being counted as psychology.³¹

Properly understood, phenomenology and empirical sciences are coworkers in a many-leveled realm, asking different questions but not always heeding each other's voices.³² In the end, however, phenomenology claims to be a grounding discipline for psychology because it investigates those questions which transcend empirical science : questions of the philosophical roots of the familiar, everyday world which includes us all.

The phenomenologist is concerned with possibility, not actuality. More positively put, philosophical application may be said to move within an orbit which is defined by the continuity between the inquirer and the object of his inquiry. The inquirer theorizes in a priori terms, just as the object of his analysis is not reality but irreality. As Schutz expresses it, "phenomenological description does not refer to existence and real experience of existence. Its aim is the investigation of the apodictically posited frame of possibilities within which the empirical realities occur"³³.

Phenomenology aims to clarify the essential laws which determine the manner in which the objective world sinks its roots into transcendental subjectivity, i.e. The laws which make comprehensible the world as a constituted meaning.

Phenomenology is anti-metaphysical only with respect to the tradition. It attempts the construction of a priori sciences on the basis of concrete intuition—such sciences as pure grammar, pure logic, pure law, the eidetic science of the world intuitively apprehended, etc ; and the elaboration of a general ontology of the objective world which embraces everything. This is metaphysics, says Husserl, if it is true that the ultimate knowledge of being may be called metaphysics. Rejecting the traditional metaphysics because of its speculative excesses, he sets up his own "apodictic" theory. Eidetic descriptions of constitutive experiences take the place of physical reality. Despite Husserl's inclination to construe reality in subjective terms, it must always be borne in mind that one is concerned with meaningful experiences in phenomenology.

An important function of phenomenology as Husserl sees it is the great task of giving to science a new and higher form. His sketch of investigations concerning "the transcendental constitution of the world" begins the clarification of the meaning and origin of such concepts as world, nature, space, time, animal being, man, spirit, organism, social community, culture, etc. These concepts, without being analyzed and clarified, serve as fundamental concepts in the positive sciences. But in phenomenology they are to be engendered with a clearness and distinctness that does not admit of possible doubt. All the a priori sciences are regarded as branches of the transcendental tree, the universal a priori being innate in transcendental subjectivity. Transcendental phenomenology, systematically and fully developed, is eo ipso a "universal ontology" not a merely formal ontology, but one which contains all the possibilities of existence. Thus is constituted an absolute foundation for the sciences.

The phenomenological method is designed to be monistic in the sense that the "reduction" to pure consciousness, which is accomplished by means of

the "elimination" of all beliefs and of existential positings of any kind, results in the delimitation of a unified sphere for reflecting analysis; and this is to serve as an adequate basis for the constitution of all knowledge and reality. By means of the phenomenological method it is possible to get "back of" the natural attitude or the theoretical attitude, etc.

Truth on the phenomonological plane does not mean the denial of truth in a naturalistic setting, or in any other sense. Its purely descriptive character is of value in two senses. (1) The "Origin" of the concept of truth in experience is clarified, as has been seen; (2) The reflection attitude which makes that possible is at the same time presupposed by the examination of truth and its criteria in any universe of discourse, or with any other attitude.

One of the most striking and at the same time disconcerting expressions of the aims of phenomenology is presented by Fink in an essay which is endorsed completely by Husserl as representing his own views.³⁴ Characteristic of this version of phenomenology is the assertion that all positive sciences begin in a dogmatic situation i.e., they are based upon presuppositions which they can themselves no longer know. In so far as philosophy refers to the sphere of presuppositions, it is supposed to make transparent the ground upon which the positive sciences are based, and to found them in a sense which they themselves cannot realise in their "bases". Philosophy thus functions as a transcendental theory of science.

In section 34 of ideas Husserl begins a series of observations "within which we are not troubled with any phenomenological epoche. We are directed to an 'outer world', and, without forsaking the natural attitude, reflect psychologically on our ego and its experiences."³⁵ This psychological reflection forms part of a wider investigation whose purpose is to disclose what is left over when the whole world is "bracketed" i.e., what remains as the

"phenomenological residuum", as the field of study of the new science of phenomenology, after the phenomenological epoche has been performed.³⁶ This wider investigation in turn, is designed to fulfill one of the aims of Ideas as a whole, namely, to lead the reader to a new scientific domain and to do so in a way which sharply distinguishes it from all other scientific domains and its science from all other sciences. Of special concern in this regard is distinguishing the domain of phenomenology from mundane domains and its science from mundane sciences (especially from psychology).³⁷

The phenomenological epoche is introduced in sections 31 and 32 as the method for revealing this new domain. This method of access is in keeping with the just mentioned aim of Ideas, specifically the aim of distinguishing phenomenology from the "positive" sciences of the world. These latter sciences are rooted in the natural attitude in the sense that they take their respective domains to be aspects of that actuality which is unquestionably on hand to all of us, and take them to be available to whatever special intuitions their methodologies prescribe. Their striving toward truth is a striving to bring to knowledge what is taken to be already there in itself. But in performing the phenomenological epoche one deprives oneself of this basis of acceptance, one brackets the world by putting the general thesis of the natural attitude "out of action".³⁸ "This means that although the thesis remains a moment in our experiencing of the world, we render it inoperative in our phenomenological intuitions and judgements so that the world is no longer simply accepted by us as the thesis posits it and as it continues to present itself despite our new theoretical attitude. With this new scientific attitude in effect, the question naturally arises of what domain of objects is left which we may take for granted, on whose basis we may generate judgements and to which we may return with these judgements yielding to its dictates in their ultimate

verification "Is not 'the world' the name for the universe of whatever exists?"³⁹

This private characterization of the method of epoche determines the ostensible movement of thought in sections 33 - 55 of Ideas as the search for a residuum, for something to fill the void that seems to be left. This void is to be filled by "'pure consciousness' with its pure 'correlates of consciousness', and its 'pure ego'" Although the imagery which Husserl employs in these sections often lends the impression that the world is excluded from the field of phenomenological research, nothing could be further from the truth. Not only do these psychological reflections attempt to establish consciousness as an essentially independent realm of being despite its factual status as a reality in the world, but as well they try to show that the world in a certain sense is "contained" within this realm as a "pure correlate of consciousness". As Husserl states it, just after the end of the psychological investigations, "although we have 'suspended' the whole world (W)e have literally lost nothing, but have won the whole of absolute Being, which, properly understood conceals in itself all, transcendencies 'constituting' them within itself".⁴⁰

Thus what on the surface appears to be a single movement of thought by the image of the search for a residuum, is actually a two fold movement. On the one hand there is the separating of consciousness and world as distinct realms of being, a movement which includes the development of the idea of consciousness, through a descriptive disclosure of its various forms, and the determination that consciousness so disclosed is a realm of being independent from the world, through an investigation of its essence. On the other hand there is the relating of consciousness and world through descriptive analyses and through the argument they support which attempt to show that the world is a dependent realm of being, ie., is a being for

consciousness. The former "seperating" movement seems to be the dominant concern, its development being continuous, apparent and essentially complete. The latter "relating" movement is quite different. Although its conclusions are emphatically stated, the developments leading to them are not clearly identified (in fact they often also form parts of the former movement) and certain aspects which would seem to be essential for this movements completion must be supplied.

There are a number of things which phenomenology conspicuously does not do or mean: (1) It does not "tear the meaning loose from the act"⁴¹ (2) It does not deny or reject the external world.⁴² (3) It does not try to answer all questions, and is not intended to be an all-inclusive method for all purposes. (4) It is also not intended to be a substitute for other methods, and above all for those involving factual and hypothetical elements. (5) It does not deny inductive truth, nor does it fail to distinguish between different types of "truth" (6) It is not a trap for metaphysical purposes. As a descriptive, preliminary discipline, its findings may be used for metaphysical (or dialectical) purposes, just as are the results of logical analysis. But it is not a short-cut to spiritualism in metaphysics, for one thing.

It contrast to these misunderstandings, there are a number of things that phenomenology does do or mean: (1) It is the first method of knowledge because it begins with "the things themselves", which are the final court of appeal for all knowledge, and also in a logical, explanatory sense, because it seeks to point out all presuppositions.

(2) It views everything factual as an exemplification of essential structures, and is not concerned with matters of fact as such. (3) It deals not only with 'real' essences, but also with "possible" essences. (4) Direct insight, evidence in the sense of the self givenness of the objectivity is the ultimate test for it. (5)

Despite the "reduction", the phenomenologist still has a brain (an "evolutionary" brain), in the same sense that he breathes. That statement is as true as it is irrelevant to the method. ⁴³

As a peculiarly philosophical method, the method of phenomenological analysis is of significance for all knowledge. It does on a universal scale, and in a thoroughgoing manner, what is only partly done by other methods. Its complete epoche and technique for philosophical analysis represents an ideal of methodological rigor that cannot but be generally helpful. But it must be strictly limited to description.

In Ideas, Husserl tells us that his interest there is to find a "new eidetic science" whose field is a "new region of being", "pure consciousness" with its "pure" "correlates of consciousness" and its "pure ego".⁴⁴ This science is transcendental phenomenology. Why is this science sought? In the first section of Ideas, entitled "Fact and Essence", the nature of eidetic sciences and their relations to one another and to sciences of fact are delineated. For every region of being, formal or material to which an eidetic science (a formal or material ontology) pertains, there are fundamental and a priori truths which express what must belong a priori to an individual object of the region. It is the task of the pertinent eidetic science to formulate these truths.⁴⁵ Developed independently from the sciences of fact, these eidetic sciences nonetheless furnish essential laws which are binding for any possible concrete objects of the factual sciences.⁴⁶ What Husserl has in mind here is exemplified by the relation of the eidetic science of space and spatial form, geometry, to the factual science of objects in space, physics. Husserl's major concern here is the relations between the regions of being and correspondingly between, their respective sciences. He tells us that phenomenology is needed for a radical "classification" of the sciences, and for the separating of the regions of being.

As an example of this he mentions the two regions 'material thing' and 'soul'.⁴⁷ Here, as elsewhere, phenomenology would clarify the intrinsic essence of each region and the manner in which they relate to one another, and in this case shed some light on the age old "mind body" problem.⁴⁸

Thus Husserl tells us, in a remark which pertains as well to the factual sciences, that 'phenomenology supplies the definitive criticism of every fundamentally distinct science, and in particular there with the final determination of the sense in which their objects can be said 'to be'. It also clarifies their methodology in the light of first principles".⁴⁹ The sciences themselves are incapable of supplying this self-criticism in principle, while phenomenology can criticize itself.⁵⁰ Modern philosophy (since Descartes.) has sought to provide this criticism of the sciences, but has thus far failed. In this sense, phenomenology is the "secret longing " of modern philosophy.⁵¹

How phenomenology can perform this service becomes clearer in the last chapter of Ideas, where Husserl explicitly takes up the topic of the connection between phenomenology and the formal and material ontologies.⁵² In the sections of the book between "Fact and Essence" and the last chapter, the main structures of consciousness are delimited. The last chapter begins with an outline of the phenomenological inquires into formal logic and formal ontology which are extensively elaborated in Formal and Transcendental Logic.

It is often wondered why Husserl included the "Fact and Essence" chapter in Ideas in page 404 of Ideas Husserl connects the themes discussed in "Fact and Essence" with the rest of the book. There it becomes clear that the problem of a philosophical grounding of the sciences, or, more generally expressed, the critique of the reason and cognition, is for Husserl what motivates the turn to transcendental subjectivity. This is not only true historically, ie., with regard to Husserl's personal biography⁵³, but more

importantly, it is also true in terms of the systematic position of this problem in his whole philosophy. In so far as the "way" into transcendental phenomenology means "motivating problem", the problem of cognition provides the only "way" in Husserl's thought.

The corresponding schematic parts of Cartesian Meditations and Formal and Transcendental Logic also point to the need for transcendental phenomenology to provide a foundation for the sciences. In the former work, the nature of this need, only hinted at in Ideas, is elaborated, and in the latter the development of the problems culminating in this need takes up more than half of the volume. The factors crucial for an understanding of the need for transcendental phenomenology, intentionally omitted from Ideas,⁵⁴ are dealt with in these works: (1) an explanation of why the "positive" sciences themselves cannot perform the role assigned to phenomenology, and (2) why there is a need to clarify the fundamentals of the sciences in the first place. Cartesian Meditations develops the first point by attempting to show that any positive science,⁵⁵ including practically all of previous philosophy, is incapable of a radical self-criticism.⁵⁶ The reason for this is that their objects are given in the "naive" experiencings and the concepts pertaining to these objects are generated in "naive" producings, i.e., experiencings and producings which contain hidden, "anonymous" functions. As a result of this, these sciences deal with objects and concepts with undisclosed horizons which form "presuppositions" they cannot clarify.⁵⁷ The ultimate presupposition of these sciences is the world.⁵⁸ Transcendental phenomenology, which has developed a method for disclosing these intentional functions and horizons, can illuminate these presuppositions and, at the same time, its own presuppositions by the same method. It can thus provide the ultimate foundation for all sciences, including itself.⁵⁹

From the beginning, then, we can see what, according to Husserl, distinguishes phenomenology from any other philosophy, i.e., what makes it alone truly scientific, and only a scientific philosophy can be truly philosophy. Phenomenology, then, will be satisfied only with a cognition that is absolutely certain and it will be concerned only with an object that is absolutely necessary, in no way contingent or "factitious", which is but another way of saying that it is the object of an absolutely certain (ultimately "rational") cognition. This sort of philosophy will refuse to accept any conclusion that has not been verified as absolutely valid for all men and for all times; thus it wants to be science in direct contact with absolute being. For Husserl however, absolute being can only be essential being, and the whole orientation of his phenomenology will be to a knowledge of the essential. He will not deny the existence of a world, not even an extramental existence; he will simply deny that such an existence can have any significance for philosophy, since existence can only be contingent.⁶⁰

Now, for Husserl a strict science of philosophy is one that, though systematic in its procedures, is not a "system". Phenomenologically speaking, he has grasped the "essence" of science in meditating on the positive sciences, where results are verified one after another and thus accumulate to form a store of established truths. The science of philosophy, then, must make a new beginning as it attacks each problem and must accept only those conclusions that have been thoroughly verified according to the only method capable of verifying philosophical truth at all. It is in this sense-and only in this sense-that the philosophical endeavor must be a cooperative endeavor. Again and again he pleads for a restoration of philosophy to its proper dignity-as we shall find him doing in his latest writings always with the assumptions that only the phenomenological method can achieve this restoration.

According to Husserl the sciences need a clarification of their fundamental concepts. But why do the sciences need this clarification of their fundamental concepts? The answer to this is only hinted at in cartesian Meditations. Because concepts like "world", "nature", "space" and "social community", which pervade a given science and determine the sense of its objects and theories, originate naively, such a science has "problems of fundamentals, paradoxes unintelligibilities"⁶¹ What are these problems? Husserl provides examples of these problems in Formal and Transcendental Logic from the sphere of logic. Although it has become a special science, for Husserl logic occupies a unique position among the sciences due to its "historical vocation". It is the science of science, i.e., a science which prescribes norms for genuine science.⁶²

The sense of this "genuineness" is given in the "Introduction" to Formal and Transcendental Logic, where Husserl refers in a general way to the "problems" of the (European) sciences. The sciences, in their present condition, "have lost their great belief in themselves, in their absolute significance. The modern man of today, unlike the 'modern' man of the Enlightenment, does not behold in science and in the new culture formed by means of science, the self-objectivation of human reason or the universal activity mankind has devised for itself in order to make possible a truly satisfying life, an individual and social life of practical reason. The belief that science leads to wisdom that is great belief, once the substitute for religious belief, has (at least in wide circles) lost its force. Thus men live entirely in a world that has become unintelligible, in which they ask in vain for the wherefore, the sense, which was once so doubtless and accepted by the understanding, as well as by the will".⁶³ The blame for this condition rests primarily on logic, which, understood as a philosophical discipline, embracing

both the theory of judgements (apophantics) and the theory of objects (ontology), has strayed from its task of providing the proper guidance. Thus we see that the "genuineness" of science does not refer, in its deepest import, to technical proficiency, practical usefulness, or even explanatory efficacy; rather, it refers to the ethical ideal of a genuine human life, a rational life.⁶⁴ Only a "transcendental logic", according to Husserl, can guide cognition to such genuineness.⁶⁵

Husserl wants to establish a science which will provide the foundation for all sciences, including itself, i.e., a foundation for all cognitive endeavors. Such a science is needed to express it most generally, because modern humanity has lost faith in reason as a means toward a truly satisfying life. This loss of faith is occasioned by certain developments in the sciences, which have not only made them unsuitable for this grander purpose, but which have also produced problems internal to them. To every actual or conceivable empirical explanatory science there corresponds an eidetic science, a regional or material ontology which formulates the a priori truths valid for the specific region of being.⁶⁶ There are also purely formal eidetic sciences. For instance, formal ontology deals with the concept "anything whatever" in formal universality, and apophantic logic concerns propositions and systems of propositions in their formal aspect. These two sciences form branches of an all-embracing formal science which Husserl designates "pure formal logic." This one science would be the science of science. Husserl is primarily concerned with providing a foundation for all these eidetic sciences, and only through them is he concerned with having an effect on empirical sciences. His predominant concern is with "pure formal logic", understood as a discipline which formulates the formal conditions of possible truth and possible existing being, that is, with reason, which, as he says, is a 'form concept'⁶⁷ but with reason in the service of

cognition. For Husserl, the ultimate clarification of the fundamental concepts of the sciences can only be achieved by an investigation of transcendental subjectivity.

"Philosophy as Rigorous science": begins with a brief backward glance at the history of Western philosophy. This survey reveals to Husserl that philosophy has always felt a need that upto the present has remained unfulfilled. Philosophy is as yet not merely an incomplete or imperfect science, it simply is not science at all; there is no objectively valid philosophical "systems", there are only philosophical "tendencies", which do not add up to "philosophy". Philosophy's constant failure to develop into a rigorous science might lead one to conclude that it is philosophy's essence to be nonscientific and that it should abandon its misguided efforts to become scientific. This is a conclusion, however, which Husserl refuses to accept.

There follows a criticism of "naturalism", the strongest contemporary pretender to the title of scientific philosophy. Naturalism, it is true, recognizes the need of a scientific philosophy, but it is the greatest obstacle to the realization of such a philosophy, based as it is on principles that make philosophy impossible. Naturalism, as Husserl here characterizes it, is the doctrine that recognizes as real (wirklich) only the psychical. As a science of the factual it either refuses any reality to the ideal or else "naturalizes" it by making it a physical reality. It is precisely by naturalizing consciousness and ideas, however, that it defeats itself. Husserl institutes, therefore, a positive critique of naturalism, ie, of psychophysical psychology's pretention to be the scientific philosophy.

Now, the demands that psychology cannot satisfy, phenomenology does satisfy. What phenomenology does is to analyze consciousness; where alone objectivity is absolute. Phenomenology, then, is a study of consciousness, but

it is not a psychology, a notion impossible to grasp until one sees consciousness as not a physical something.

Moreover, not only is empirical psychology not philosophy, it is not even psychology in the most significant sense. Because it is afraid of introspection, it refuses any direct grasp of the data of consciousness, thus blocking any access to the essence of the very concepts with which it must work. Nor is it aware of the deficiencies in its own procedures but seeks to overcome the essential weakness of its methods by employing these same methods. In doing this it rejects the only method that would make it truly a psychology, the phenomenological method. It wants to get to "things themselves" without even knowing what "things" are.

In this its basic error is a confusion between the comprehension of experience precisely as experience and the analysis of the experience of nature merely as a psychological process. In other words, in describing experience we are forced to employ a set of concepts that are derived not from experience but from an essential analysis of the acts of consciousness. It is true, of course, that we must have experiences in order to have concepts, but the concepts are not justified by experience; their validity transcends experience. The question, then, of a scientific knowledge of what experience presents cannot be answered by experience; it is a question of "sense", which is a transempirical element in all knowledge. By "naturalizing" consciousness psychology is bound to miss this its essential character. Thus phenomenology is a study of essences only, whereby it escapes the objections against introspection, which is an observation of factual psychological processes and not of ideal objectivities.

Husserl rejects the philosophic claims of naturalism and psychologism because they are inadequately scientific, the tendency, represented by

historicism and Weltanschauung philosophy finds naturalistic science too scientific for philosophy. In so far as this tendency remains immersed in a certain relativism based on the empirical facts of psychic life, however, it resembles naturalism and is no less to be rejected by those who seek the ideal of a rigorous science of philosophy.

One can look at the life of the spirit from a historical point of view and legitimately recognize in it a 'structure of becoming', but he must not be led by this to conclude that in it nothing is stable, not even objective truth.⁶⁸

The "historicism" that Husserl now criticizes is not history; rather it is an attempt to interpret all reality and all truth as relative to historical development. Taking Dilthey as the most significant representative of this attitude, Husserl agrees that history manifests a vast diversity of philosophical positions in the ongoing life of the spirit.⁶⁹

Weltanschauung philosophy, unlike historicism, does not consider the variety of successive philosophical positions. Rather it looks upon a certain loose unity of all scientific thought at any time as expressing the spirit of that time; and this it calls "philosophy". Precisely because it is not a unifying "science", however, but only a unifying Anschauung, this sort of thing is suspect. Its attitude is humanistic; looking at the same historical facts as does historicism, it finds that they are not all equally invalid, but rather all equally valid, since each performs in its age an important function in the development of the human spirit. Thus philosophy serves to develop the person (or the community) ; its concern is not objective truth. Ultimately it is practically synonymous with "culture", whose goal is to give within the limits of a particular time and place as good an answer as possible to the problems of life. It is, then, a sort of 'wisdom' or "science of living", and it calls itself a

"philosophy" of the loftiest human values. A rigorously scientific philosophy is a human value which must be attained; nothing can be substitute for it.

Weltanschauung and rigorously scientific philosophy, then, are distinct human values. Whether one chooses one or the other depends on the fundamental inclination by which one is guided, be it theoretical or practical.

If, as in the sciences of nature, a strictly philosophical discipline had already been constituted, the man whose inclination is to the theoretical would have no choice at all—weltanschauung would have no attraction for him. Since, however, the necessities of life can dictate a decision, even the scientific spirit cannot always wait to make practical decisions. Where a decision must be made, even an Anschauung is better than nothing. Still our responsibility to future generations forbids undue haste; philosophy is an eternal value which is not to be sacrificed for a temporal one, no matter how attractive the latter only a scientific philosophy can satisfy modern scientific man. The only solution, then, is that such a philosophy be constituted; no matter how great the labor involved. The triumphant advance of science will not stop before philosophy, and no compromise with a weltanschauung can be tolerated. Still, scientific fanaticism need not go to the other extreme and destroy Weltanschauung. There are still personal and cultural values to be assured, and thus weltanschauung will retain its significance for humanity.

In fact, a deeper penetration into the general life of the spirit offers the philosopher a more original and hence more fundamental research material than does penetration into nature for the realm of phenomenology, as a theory of essence, extends immediately from the individual spirit over the whole area of the general spirit, and if Dilthey has established in such an impressive way that psychophysical psychology is not the one that can serve as the "foundation for the humanistic sciences", I would say that it is the phenomenological theory of

essence alone that is capable of providing a foundation for a philosophy of the spirit.

Thus Weltanschauung, philosophy and Scientific philosophy are sharply distinguished as two ideas, related in a certain manner to each other but not to be confused. Herein it is also to be observed that the former is not, so to speak, the imperfect temporal realization of the latter. For if our interpretation is correct then upto the present there is no "system of doctrines", even an incomplete one, objectively set forth in the unified spirit of the research community of our time.⁷⁰ On the other hand, there were already Weltanschauung philosophies thousands of years ago. Nevertheless, it can be said that the realization of these ideas (presupposing realizations of both) would approach each other asymptotically in the infinite and coincide, should we want to represent to ourselves the infinite of science metaphorically as an "infinitely distant point". The concept of philosophy would thereby have to be taken in a correspondingly broad sense, so broad that alongwith the specifically philosophical sciences it would embrace all particular sciences, after they had been turned into philosophies by a rationally critical explanation and evaluation.

Philosophical necessity as a need for Weltanschauung forces us. This need becomes constantly greater the wider the circle of positive sciences is extended. The extraordinary fullness of scientifically "explained" facts that they bestow on us cannot help us, science in principle, alongwith all the sciences they bring in a dimension of riddles whose solutions become for us a vital question. The natural sciences, have not in a single instance unraveled for us actual reality, the reality in which we live, move, and are. the general belief that it is their function to accomplish this and that they are merely not yet far enough advanced, the opinion that they can accomplish this-in-principle has revealed itself to those with more profound insight as a superstition. The

necessary separation between natural science and philosophy in principle, a differently oriented science, though in some fields essentially related to natural sciences in process of being established and clarified. As Lotze puts it, "To calculate the course of the world does not mean to understand it."⁷¹ In this direction, however, we are no better off with the humanistic sciences. To "understand" humanity's spirit-life is certainly a great and beautiful thing. But unfortunately even this understanding cannot help us, and it must not be confused with the philosophical understanding that is to unravel for us the riddles of the world and of life.

The spiritual need of our time has, infact, become unbearable. Would that it were only theoretical lack of clarity regarding the sense of the "reality" investigated in the natural and humanistic sciences that disturbed our peace eg., to what extent is being in the ultimate sense understood in them, what is to be looked on as such "absolute" being, and whether this sort of thing is knowable at all. Far more than this, it is the most radical vital need that afflicts us, a need that leaves no point of our lives untouched. All life is taking a position, and all taking of position is subject to a must that of doing justice to validity and invalidity according to alleged norms of absolute validation. So long as these norms were not attacked, were threatened and ridiculed by no scepticism, there was only one vital question: how best to satisfy these norms in practice. But how is it now, when any and every norm is controverted or empirically falsified and robbed of its ideal validity? Naturalists and historicists fight about Weltanschauung, and yet both are at work on different sides to misinterpret ideas as facts and to transform all reality, all life, into an incomprehensible, idealess confusion of "facts". This superstition of the fact is common to them all.

It is certain that we cannot wait. We have to take a position, we must bestir ourselves to harmonize the disharmonies in our attitude to reality-to the reality of life, which has significance for us and in which we should have significance-into a rational, even though unscientific, 'world-and-life-view". And if the Weltanschauung philosopher helps us greatly in this, should we not thank him ?

Our age wants to believe only in, "realities". Now, its strongest reality is science, and thus what our age most needs is philosophical science.

To some science implies obscurity but this is false; true science is essentially clear. Even the exact sciences, it is true, have had their long periods of obscurity, and just as they have passed this stage in their development, never to return to it, so may we expect philosophy to attain maturity. If, however, it is to satisfy the exigencies of science, such as the modern world understands them, philosophy must rid itself of all presuppositions, it must begin anew. The new philosophy will not come from old philosophies; it will be dictated by the very sense of the problems to be solved.

In our age understands what is to be accomplished and has the will to do so, it will accomplish it. Great names will mean nothing to it; valid position is to be adopted, no matter who held it; truth is truth. We must begin at the beginning. We must see with our own eyes and forget prejudice. The fact that the positive sciences have succeeded by the use of indirect methods does not mean that these methods are essential to science as such. The true scientific method in philosophy is that of the direct, intuitive grasp of essences. It is such a science, phenomenological science, which opens up infinite perspectives for philosophical investigation.

In his lectures on Logic, Kant has stated that the three central questions of philosophy, namely, what can I know, what ought I to do, and what may I hope for depend upon and pre-suppose the answer to the fourth question, what is man.⁷² Heidegger in his interpretation of Kant's philosophy, Kant and the problem of Metaphysics, has shown how this problematic of man structures the whole of his philosophy; he further shows how this concern with what is man is not to be taken as anthropologism, but rather as preparing the way for fundamental ontology.⁷³

In a very different, but equally emphatic manner, Husserl also had held that the whole project of transcendental phenomenology was bound up with a philosophical theory of man; indeed in his Phenomenology and the crisis of the European sciences, he claimed that philosophy is the bearer and custodian of the idea of man and that the vocation of the philosopher is to be the functionary of mankind.⁷⁴ This commitment to the human essence has been given expression in different philosophies in different ways; the idioms may vary, the tone and passion may be different, yet, whether it is phenomenology or existentialism, philosophical Marxism or analytic philosophy or pragmatism, every philosophical trend has stood by this humanist concern. It need not be understood as humanism in the sense in which humanism is one type of kind of philosophy among others, but the human concentration. I am now trying to describe is far deeper and more pervasive and general than any creed or doctrine, in this broad sense all philosophy has been humanistic.

The purpose of "Philosophy and the crisis of European man" is to delineate philosophy's role in making Western man the spiritual being that he is. Conversely, it is western man's failure to live up to his philosophical destiny that has brought him to the crisis before which now stands. He is sick, and there seems to be no available cure for his illness. There is a science of

medicine to cure his sick body, but there is no science of the spirit to cure his sick soul. If there is to be such a science-and there must be-it cannot simply satisfy itself with-empirical observation; only a strict science will do. Nor can such a science of the spiritual subject who is man be a merely psychophysical science-though it cannot spurn the help of this latter. It is important to realize that it cannot be science of nature at all; it cannot be "objective" the way a science of nature must be. The world it is to study is not the objective world of nature but the "environing world" (Umwelt) of the spiritual subject.

To make his point more tellingly, Husserl points out that science itself is a product of "spirit" and cannot, therefore, be investigated by the kind of science whose object is "nature". Thus the problem of western man is not one that "objective" science can solve; its solution lies in a science of the spirit-and its task is to grasp the spirit that characterizes and animates western civilization.

Husserl now leaps over centuries to contrast the "true rationalism" of the greek spirit with the "objectivistic" rationalism of Europe from the seventeenth to the nineteenth centuries. It is in this mistaken rationalism, this "objectivism", that he finds the roots of Europe's cultural crises. It is reason that distinguishes man from the beast; and it is philosophical reason ("universal rationality") that raises him to a new level and characterizes all his culture the philosophical ideal, in fact, is the nerve center of European culture, without which Europe is not Europe.

The conclusion reached here is that not only must spirit be studied scientifically, but only spirit can be studied scientifically, in the full sense of that term. The kind of rationality required by an ultimate science can be gained only in genuine insight, and only in "intentional" investigations do we have the

required intellectual insight. To investigate intentionality, however, is to investigate the spiritual subject, the ultimate source of all intentionality.

In summary, then, it is necessary to say that the only goal worthy of western man is the infinite goal set by strictly scientific reason. This we can understand in the light of an historical teleology of reason; and if Western man is to meet the "crises" which faces him, he must be reborn in the spirit of scientific philosophy.

Husserl begins section 27 of *Ideas* with the following statement: "We begin our considerations here as human beings who are living naturally, imagining, judging, feeling, willing, "in the natural attitude".⁷⁵ He then proposes that we reflect along with him to discover what this means. The investigation, which follows, extending through section 30, attempts to characterize the general features of the natural attitude from the standpoint of that attitude itself.⁷⁶ The features Husserl uncovers are these: (1) when I am awake,⁷⁷ the world is continually on hand (Vorhanden)⁷⁸; (2) I belong to this world, as do others to whom, I know, the world is also continually on hand⁷⁹; (3) Anything of the world of which I am aware through experience and prior to any thinking, bears in its totality and in all its articulated saliences the character: "there" (da), on hand.⁸⁰ These features form what Husserl calls the "general thesis" (General thesis) of the natural attitude.⁸¹ Husserl sums up the general thesis in this way: "I find continually on hand and standing over against me the one spatio-temporal actuality (Wirklich Keit) to which I myself belong, as do all other human beings found in it and related in the same way to it. The 'actuality', as the word already tells us, I find to be an actuality that is there (daseiende) and also take it just as it gives itself to me, as being there".⁸²

This thesis or positing is not, as Husserl explains, a particular or explicit act of consciousness; it is something which pervades, and is implicit in, all

mental processes which are directed toward the world.⁸³ This means, for example, that it is not solely a component of a theoretical attitude, although Husserl's text sometimes misleads us on this point.⁸⁴ Nor is this thesis one which only pertains to the world in some general sense, to an all-embracing structure or the like; it pertains to what is in the world as well.⁸⁵ Husserl does not tell us what sort of thesis the thesis of the natural attitude is in sections 27 through 30 of Ideas.

What Husserl terms the 'natural attitude' is an essential dimension of all possible experiencing in and of the social world. It is an inescapable term of any phenomenological discourse which seeks to interpret man as a social being, and so we must try to be as clear as possible about what phenomenologists mean by it. Husserl's own characterization of the natural attitude (or natural standpoint) may serve as a point of departure for our discussion :

I find continually present and standing over against me the one spatio-temporal fact-world to which I myself belong, as do all other men found in it and related in the same way to it. This 'fact-world' as the word already tells us, I find to be out there, and also take it just as it gives itself to me as something that exists out there. All doubting and rejecting of the data of the natural world leaves standing the general thesis of the natural standpoint. "The" world is as fact world always there; at the most it is at odd points "other than I supposed, this or that under such names as "illusion', "hallucination", and the like, must be struck out of it, so to speak; but the "it" remains ever, in the sense of the general thesis, a world that has its being out there.⁸⁶

Within the field of our activities in everyday life certain philosophical matters remain outside the scope of reflection: that there is a world accessible to all men; that this world is real; that it is essentially the same for all normal men; that it continues to be itself through the flow of historical time; that the

sector of the world we perceive is a reliable clue to those portions we do not perceive and may never come to know. Problems, puzzles, impasses, and even minor aggravations of day-to-day existence manifest themselves (and are expected to continue to do so) against the backdrop of the continuous texture of everydayness. The problem may be severe and Worrisome; the reality within which it turns up to nettle us is taken for granted. To say that such matters are not reflected on means only that they are the grounds on which mundane reflection operates. When man in the natural attitude does think about the basic philosophic contours of his reality, one of two things may be going on: first, he may entertain the idea of the oddness of reality, in the sense in which an employee of the postal service may occasionally ponder the strangeness of mail being delivered at all, of there being a postal system. Such thinking is not so much scattered or fragmented as it is a kind of skimming of reality, for there is no urge or reason to penetrate the momentary insight and explore its underlying implications. Occasional surface reflection in this context is a mode of epistemological dilettantism.

There is a second kind of naive philosophical musing within the natural attitude which centers on particular problems: the snares of communication, the phenomenon of generational transformation, the deceits of language, or the ephemeral character of life itself. To speak of problems here means that the individual who is "philosophizing" has been led to his reflections by something exploding within his immediate world, whether it be a dramatic failure in trying to express something of great importance in conversation feeling the impact of suddenly finding himself regarded as part of the Establishment, finding out that language can, trap him despite his devotion to her, or being hurled into the uncanniness of another's death. In both kinds of reflection, the reflector-man himself-is supported by the familiarity of the world turned strange, turned sour,

or psychologically decomposed. For Husserl, it is "the world" which hides the more subtle features of philosophical concern, and it is man's behaving in "the world" which persists, a granite of common sense which is impervious to anything less than truly radical philosophical analysis.

It would be misleading to separate what we have referred to as "the world" from our believing in it. In fact, the natural attitude reflects a unity of the two. Within the world I act as though its elements, however puzzling they may be, are at least discernible as facets of mundane reality. The turn in reflection to an examination of the natural attitude may utilize examples or situations within daily life as a starting point, but they should not be confused with phenomenological analysis. Very often, writers not only in philosophy but in other disciplines will commence the analysis of the theme or will approach a problem by turning to their own concrete situation in space and time at the moment of their reflections. The device is common enough in both literature and science and has the advantage of picking up the reader in the most direct way. It is not necessary to be an expert on the nature of space to follow the author's simple description of where he is writing, nor, must the reader have special knowledge about the phenomenological theory of "horizon" in order to be led by the author from what is immediately at hand to the hills beyond. Two examples of what I have in mind can be cited, the first from a social scientist, the second from a philosopher. Kenneth C. Boulding begins his The Image this way :

As I sit at my desk, I know where I am. I see before me a window; beyond that some trees; beyond that the red roofs of the campus Stanford University; beyond them the trees and the roof tops which mark the town of Palo Alto; beyond them the bare golden hills of the Hamilton Range. I know, however more than I see. Behind me, although I am not looking in that

direction, I know there is a window, and beyond that the little campus of the center for the Advanced study in the Behavioural sciences, beyond that the coast Range; beyond that the pacific ocean87

And here is how Alfred Schutz opens his Reflections on the problem of Relevance:

Having decided to jot down some thoughts on the matter of relevance, I have arranged my writing materials on a table in the garden of my summer house. Starting the first strokes of my pen, I have in my visual field this white sheet of paper my writing hand, the ink marks forming one line of characters after the other on the white background. Before me is the table with its green surface on which several objects are placed my pencil, two books, and other things. Further on are the tree and lawn of my garden, the lake with boats, the mountain, and the clouds in the background. I need only turn my head to see the house with its porch, the windows of my room, etc. I hear the buzzing of a motorboat, the voices of the children in the neighbor's yard, the calling of the bird.....88

In both cases the author is interested in inspecting the matrix of the individual's perceptual world, but he begins with the essential placement of the individual-his here-and-now being. For building the outline of being situated in the world of everyday life are sufficient for orienting the reader to his subsequent theme. In Schutz, the effort is to explore in philosophic detail as well as phenomenological depth the nature of the preliminary elements introduced: the meaning of "here" and the ways in which one is motivated to attend to what is not only "there" but what is in the far reaches of what typically concerns man in the natural attitude. The bare recognition of being present in the world is presupposed by the two authors, the first for purposes of establishing an orientation to his topic, the second for distinctively

philosophical ends: to achieve a radical stance in terms of which the natural attitude itself can be thematized.

There are, then, at least two senses of being "in" the natural attitude. On the one hand, man naively lives his everydayness, does his chores, goes to work, enjoys his leisure, dreams his pleasures, and suffers his disappointments. At this level, there is no self-conscious awareness that all of this is going on. On the other hand, the individual may indeed think about his being in the business world, at his desk, on the phone, dictating, maneuvering. The second level of awareness involves a separation of the Circumscribed activity from its larger relationship to the economy in general, world trade, etc. However, both levels share the same essential identification with the natural attitude, for they build upon what Husserl calls the 'general thesis' of the natural attitude: the prereflective believing in the reality of both the delineated problem and its larger background.

The return of phenomenology to the life-world completes the circuit of our discussion, for in raising the theme of the crisis of western man Husserl has sought, in a new way, to present an approach to the meaning of his own philosophy. The subtitle of his last work is "An Introduction to Phenomenological Philosophy". After a long lifetime of phenomenological labor, in which all of his books may be said to bear the same subtitle as the crisis Husserl still asks himself and his reader 'what is phenomenology?' It should be evident that the force of the question leads us to reconsider the nature of all theoretical inquiry. The many themes we have examined—the natural attitude, typification method, and the uses of phenomenology are philosophical adumbrations of one reality, the realm of man seeking his own truth in the truth of philosophy. Phenomenology insists on reraising the question of its own meaning because it knows that initial presuppositions are decisive in all

theoretical work. Moreover, self scrutiny is itself philosophical analysis. Husserl sought for an ultimate foundation on which the edifice of all certain knowledge of the whole of man's experience could be founded. The social sciences are part of that unitary pattern. Taken together, phenomenology and social science are ways of honoring philosophy by reaffirming the privileged station of reason.

Husserl's conception of the life-world-the immediately experienced reality of man as a mundane being-contains within it a number of different though related themes. First there is the distinction between the character of naively lived experience (man in the natural attitude) and the scientific interpretation of that experience. Historically, there has come to be a replacement of man's self-understanding in mundane life by a fundamental abstraction out of recognizable experience into a mathematical-physical formalism whose roots go back directly to Galileo. Second, the meaning of "subjectivity" has been obscured and degraded by the philosophical attitude underlying much of the positivistic and naturalistic interpretation of the social world. Not only has "subjectivity" been made synonymous with the purely psychological sense of individual attitude it has been made an object for behavioral investigation, the assumption being that the main consideration in the analysis of the subjective is what the observer can make of it. Third, the role of philosophy in reclaiming the domain of the life-world has undergone a pernicious transformation in our time: philosophy, in fact, has lost its position as the discipline committed to wisdom and has instead settled for becoming the spokesman for a world view in which objectivism replaces lived experience and the methodology of the natural sciences becomes the sole claimant to a veridical account of human experience. Finally, with the turn from the truth of subjectivity to the objectivity of a naturalistic view of man a double void appears. On the one

side, if a genuine philosophy of the subjective is abandoned, there arises in its place an irrationalism, affectivity unbound, which heralds an attack against philosophy itself; on the other side, the price paid for accepting the logic of the natural sciences as unquestionably the proper instrument for the study of man is the avoidance of the richness of everyday life-its wealth of subtly structured typifications, its remarkable prepredicative organization, and its history of sedimented meanings which brings to the present the intonations of human continuity.

Far from Husserl's ideas being out of date, phenomenology has become the most contemporary of philosophies because it is most faithful to the oldest tradition. For the social scientist, Husserl's message is a simple but devastating one: "know thyself".

The crisis of science in general, of the sciences of man, and of philosophy leads to an irrationalism. Reason itself appears to be the contingent product of certain external conditions. From the beginning of his career, Husserl recognized that the problem was to give a new account of how all three-philosophy, science, and the sciences of man-might be possible. It was necessary once again to think them through to their foundations. He saw that these different disciplines had entered into a state of permanent crisis which would never be overcome unless one could show, by a new account of their mutual relations and their methods of knowing, not only how each alone might be possible, but how all three exist together. It must be shown that science is possible, that the science of man are possible, and that philosophy also is possible. The conflict between systematic philosophy and the advancing knowledge of science must cease.

Husserl raised this problem at the beginning of the century, and he raised it again at the end of his life in 1936 in the last work he partially published: Die Krisis der europäischen Wissenschaften.⁸⁹

Philosophy has been traditionally regarded as the science of eternal truths. If we are to be exact, we should, rather, follow Husserl in the last years of his life and call it the science of the all-temporal that which holds throughout all time, instead of a truth which would absolutely escape from the temporal order. This is a deepening of temporality. There is no passing beyond it.

During the whole career of Husserl, therefore, the struggle is on two fronts. On the one hand it is a struggle against psychologism and historicism, in so far as they reduce the life of man to a mere result of external conditions acting on him and see the philosophizing person an entirely determined from the outside, lacking any contact with his own thought and therefore destined to skepticism. But on the other hand, it is also a struggle against logicism, in so far as this is attempting to arrange for us an access to the truth backing any contact with contingent experience, Husserl is seeking to reaffirm rationality at the level of experience, without sacrificing the vast variety that it includes and accepting all the processes of conditioning which psychology, sociology, and history reveal. It is question of finding a method which will enable us to think at the same time of the externality which is the principle of the sciences of man and of the internality which is the condition of philosophy, of the contingencies without which there is no situation as well as of the rational certainty without which there is no knowledge.

The importance of the life-world for phenomenology of the social sciences is related to the "crisis of European Sciences" which gives part of the title of Husserl's last work. The crisis of European Sciences" which gives part

of the title to Husserl's last work. The crisis has many facets. In one way, the acceptance of a formal account of man's social being in place of a rigorous examination of the immediate experiential world he inhabits permits the substitution of what is empirically observable for the way in which the social world is perceived and interpreted by those who constitute distance between what is intended by common sense men and the constructions offered by the social scientists leads to a loss of philosophical coherence : Man can no longer recognize himself in the accounts which certain of his fellow men offer of him. In another way, the crisis of which Husserl speaks is the product of a loss of confidence in human reason, a sense that science no longer offers men a productive understanding of human existence, and the feeling that below the conceptual systems swell of passion and sentimentality which can sweep away the edifice of knowledge. In historical terms, of course, Husserl was thinking out his philosophy of crisis during the convulsion of Nazism and the torment of the years which led to its rise. Taken in this context, the refusal of and retreat from reason amounted to a negation of the meaning of coherence and order in the life-world and a repudiation of any philosophical as well scientific effort to comprehend mundanity. The sundering of reason from experience, of philosophy from life, is nihilism, for what denied is the validity of inquiry itself, of consciousness coming into self-responsible clarity. The crisis of western man consists in the denial of reason and the affirmation of conceptual fragmentation.

WHAT IS THE NATURE of the present crisis to which phenomenological philosophy is asserted by Husserl to offer a solution ? If the existence of Western man appears critical and problematical, it is because he has allowed himself to become unfaithful to his idea, the very idea that defines and constitutes him as Western man. That idea is no other than the idea of

philosophy itself: the idea of a universal knowledge concerning the totality of being, a knowledge which contains within itself whatever special sciences may grow out of it as its ramifications, which rests upon ultimate foundations and proceeds throughout in a completely evident and self-justifying fashion and in full awareness of itself. Closely connected with this idea, whose inception in ancient Greece in the 7th and 6th centuries BC marks the historical beginning of western man, is the idea of a truly human, i.e., philosophical, existence, an existence oriented towards the ideas, ideals, and norms of autonomous reason, which alone permits Western man to live in conformity and at peace with himself.

Paradoxically enough, it is owing to the one-sided and, therefore, distorting as well as distorted realization of the idea of philosophy since the Renaissance viz., its realization through the positive sciences-that Western man has lost sight of the idea which makes him what he is and has thus become alienated from himself. In the course, of their development, expansion, and growth (which Husserl is ready to admire), the sciences have undergone a process of specialization and technization. Perhaps this was unavoidable; but it has led to forsaking those very philosophical aspirations out of which Western science was born and by which it had been sustained in the 17th and 18th centuries. Who indeed can today look at sciences as the thinkers of those centuries did? Who can still maintain that science has the function of enabling Western man to renew himself under the idea of his rationality, to lead an authentic existence as a rational being, to order freely and reasonably his relations to his environment, his fellow-men and himself? In the prevailing positivistic interpretation, the sciences appear as expedients to predict facts and events and to manipulate them. All questions concerning human reason which is but a title for "eternal" or a temporal ideas and norms-among them

true knowledge, authentic value, genuinely good action, etc-are eliminated from the sciences, not only from the natural sciences which anyhow confine themselves to the corporeal aspect of reality but from the humane sciences as well. In the latter, too, man is regarded merely as to his factuality, as an object like any other one in whose study the objectivistic methods of the natural sciences must be emulated.⁹⁰ However, if the human mind and human rationality are either overlooked or explained away in a naturalistic fashion, the sciences themselves become un-intelligible. Since they are products and creations of the human mind, the foundations upon which they rest, the sense of their procedures and accomplishments, and the limitations of their legitimacy cannot be brought to light except by referring the very products to the generating and producing (leistende) mental activities. If this most essential context is overlooked-in recent times it has increasingly become the tendency to disregard it-the sciences appear as most ingenious technical devices which one may learn to use and which, if properly handled will yield most remarkable, even marvelous, results but whose interior mechanism and functioning remain utterly obscure.

The crisis of the Western sciences does not concern their technical validity. What is in question is the meaning of the sciences in a philosophical sense and, no less important, their human significance. They familiarize us with facts and their concatenations, with conditions under which certain facts occur. In a world in which there are merely facts and in which man himself appears as nothing but a most complex fact, there is no room for the norms and ideas of reason. They become unintelligible. Science, it seems, has nothing to say regarding things that matter most for human existence.⁹¹ Hence the growing skepticism, if not hostility, with regard to the sciences extends to reason itself, whose paramount manifestations and creations the

sciences are. Losing faith in reason, Western man loses faith in himself. All the irrationalistic and anti-intellectualistic tendencies which have of late made their appearance on the Western scene are symptoms of the disease which has befallen Western man, of his estrangement from himself, of his betrayal of himself, that paradoxical betrayal through partial realization. For his salvation, Western man must not only try to escape from himself; on the contrary, he must endeavor to find himself again. At this point phenomenological philosophy appears in its historical significance and mission. It purports the return to the idea of philosophy, though certainly not to any philosophical system of the past. Resuscitating the idea of philosophy in the classical sense in which it was conceived in Greece, re-orienting western man towards this idea as the TEXOS of his historical existence, phenomenology permits him to become again true to himself.⁹²

It is not by an accident or through a blind fate that Western man has fallen into his present existential crisis. To show how that crisis grew organically in the history of western thinking and to convince his readers that at the present historical stage phenomenology is necessitated by the meaning of western history, or, more correctly, by the sense of the historicity of western man, if the very foundations of his historical existence are to be retrieved, Husserl engages himself in historical considerations of a particular kind.⁹³

A highly paradoxical situation arises in which Husserl sees the germ or even the incipient phase of the present crisis of the sciences. They are in a flourishing growth, they proceed from one theoretical conquest to the other, not to speak of their practical success. They seem to bear the stamp of exemplariness and finality. The ways of reasoning and the methods of the sciences, especially the mathematical and physical sciences cannot but appear

conclusive and absolutely evident to whomever follows those lines of thought. Yet, when the attempt is made to account for this conclusiveness and for the accomplishments of science in terms of the functions and operations of the mind whose products and creations the sciences are, it appears in the light of Hume's analysis that the sciences and the evident conclusiveness of their methods are utterly unintelligible.

Since the time of Galileo upto the present day, modern philosophy Husserl maintains, is torn between the opposite tendencies of objectivism and transcendentalism. Objectivism has found its realization in the establishment and growth of the positive sciences, which, in the course of time, have undergone increasing specialization and technization. Technization of the science means their transformation into arts by means of which one may accomplish many admirable things but which rest on unclarified foundations and on unquestioned presuppositions.

At the root of the present crisis of philosophy, Husserl discerns the breakdown of objectivism, on the one hand, and, on the other hand, the failure of transcendental subjectivism to consolidate itself. In this situation two problems have to be faced. The one concerns the Lebenswelt, for which, as we have seen, modern science has substituted a tissue of ideal constructions which passes for reality. The other problem is that of an adequate conception of the mind; this leads to a discussion modern psychology and of the very idea of psychology itself.

The crisis goes even deeper. Supported by a kind of nominalism of the spirit, those who deny the centrality of reason in historicopolitical terms also abandon the mission of philosophy in its classical form. Nihilists are the "know - nothings" of philosophy, the suicides of Delphi. The kind of nominalism I am speaking of here is one who manifests itself less in

programmatic utterances than it does in a refusal to recognize the possible legitimacy of eternal truth, of essential knowledge, and of universal science. In place, of the ideal of what Husserl called "rigorous science", primordial apodicticity, there is proclaimed the superiority and even the desirability of patchwork analysis, limited questions posed in restricted ways, in order to achieve partial results. Circumscription is elevated into a new ideal. No indictment of science is intended here, for the problem is not the adequacy of concrete procedures and results in the various sciences but the philosophical nature of the scientific enterprise. Husserl raises his voice in warning against the abandonment by philosophers no less than scientists of their common heritage and ultimate responsibility : the justification and celebration of reason. In Aron Gurwitsch's formulation :

The crisis of the Western sciences does not concern their technical validity. what is in question is the meaning of the sciences in a philosophical sense and, no less important, their human significance. They familiarize us with facts and their concatenations, with the conditions under which certain facts occur. In a world in which there are merely facts and in which man himself appears as nothing but a most complex fact, there is no room for the norms and ideas of reason. They become unintelligible. Science it seems, has nothing to say regarding things that matter most for human existence. Hence the growing skepticism, if not hostility, with regard to the sciences extends to reason itself, whose paramount manifestations and creations the sciences are losing faith in reason, Western man loses faith in himself. 94

Philosophy, in these terms, is the discipline of all disciplines, for it calls man back to his own justification. For Husserl, it was the privileged task of phenomenology to remind philosophy of its inner meaning and to return the philosopher to his proper business. Although it may seem a brazen claim to

say with Husserl that phenomenology seeks the redemption of philosophy, it is, in truth, the voice of humility which speaks. Husserl is convinced that, amidst the destruction of our time, phenomenology alone can recall man to his philosophical senses, introduce him again to the meaning of philosophy.

Phenomenological philosophy is a line of thinking which alone offers a way out of the crisis that has befallen Western man.⁹⁵ The crisis of European existence can end in only one of the two ways : in the ruin of a Europe alienated from its rational sense of life, fallen into a barbarian hatred of spirit; or in the rebirth of Europe from the spirit of philosophy, through a heroism of reason that will definitively overcome naturalism. Europe's greatest danger is weariness.

The importance of Phenomenology for the social sciences is no less forcefully expressed in Husserl's characterization of the sickness of Western man. To the extent to which philosophy is excluded from social - scientific inquiry or relegated to a marginal position self - reflection becomes impossible and the social scientist cuts himself off from a purview of his own activities. More and more, social science retreats from any attempt to comprehend man in the actual context of his immediate experience, his life-world. An element of the absurd enters the scene of the sociologist's performance : Once the teleological bond between action and justification is severed, the activity of the investigator is reduced to conceptual rubble. It is rather like Carné's image of the man in the glass telephone booth. We see his gesturing, his mouth opening and closing, his facial animation, but we hear nothing. Perhaps we might say, what appears to be a delightful conversation is an anguished effort to communicate, what seems to be a diversion is business routine ; we may be witnessing the act of an informer or a placer of anonymous calls. Cut off from the unity of the conversation as given to both parties, all we have to go in is

the surface scene; the jaw working up and down, one hand waving about, sudden thrusts of the head back in what we assume is laughter. Without the reality of the person at the other end of the line and without the microcosm they share, within which the conversation occurs, the phenomenon of the telephone both would be splintered into absurd bits : the physics of the mandibles, the calculus of a flickering tongue. In Husserl's image, knowledge divorced from its telos results in the shattering of reason and the deformation of the life-world. The social scientist cut off from his own philosophical roots finds himself a stranger to the life-world.

Phenomenology, on the contrary, has been established and developed by Husserl as a philosophical, not a positive, discipline and as a philosophical discipline in the most radical sense conceivable. Phenomenology concerns itself with the fundamental problems of knowledge and experience, both scientific and the pre-theoretical experience which we have of the surrounding perceptual world and by which we are guided in our everyday life. Whereas positive sciences take for granted the objects with which they deal and concern themselves with their exploration and theoretical explanation; phenomenology poses the question of the existence of objects and of the meaning of their existence. The term "Objects " is here used in the most inclusive sense so as to comprise real objects, natural things (animate as well as inanimate) and cultural objects (e.g., instruments books, works of arts and the like), and ideal unities of the kind which play a role in mathematics and logic and, further, historical and social entities such as political institutions, economic systems, legal orders, etc.

Since its beginning phenomenology has been attempting to solve a problem which is not the problem of a sect but, perhaps, the problem of our time.

Living in the "natural attitude" (naturliche Einstellung), which is the attitude not only of everyday experience but also of any activity whatever (with the sole exception of radical philosophical reflection as carried out in specific phenomenological considerations), we simply accept the existential character with which the perceptual world and whatever it contains present themselves. 96

The essential reference of objects to acts of consciousness motivates the phenomenological reduction. First of all this reference has to be rendered explicit. As a consequence, consciousness comes to be disclosed as a unique and uniquely privileged realm, prior to every domain, including the perceptual world. 97

By the phenomenological reduction, the integration of consciousness into the real world is severed. Consciousness is no longer regarded as a particular mundane domain among other domains, nor are acts of consciousness considered as mundane events which occur in the real world and, therefore, depend causally or functionally upon other mundane events. Under the phenomenological reduction, acts of consciousness are considered solely as experience of objects, as experiences (this term understood in the broadest possible sense) in and through which objects appear, present themselves, and are apprehended as those which they are and as which they count. By the phenomenological reduction, consciousness is fully disclosed as a unique realm of absolute priority because it reveals itself as the medium of access to whatever exists and is valid. 98

Phenomenology is nothing but the systematic and comprehensive study of the correlation between the world and the consciousness of the world -more generally, between being of every kind and description and acts of consciousness through which being appears and in which it originates.

To illustrate the problems which arise in the field opened up by the phenomenological reduction and the nature of phenomenological analytical work, Husserl refers in the main to the phenomenology of perception as established in his earlier writings, especially Ideen Zu einer reinen Phanomenologie und phänomenologischen philosophie and cartesianische meditationen.⁹⁹ Keeping in line with general orientation of the Krisis, Husserl does not develop the theory of perception in a systematic fashion. Rather, he brings out some of the pertinent topics as representative examples of phenomenological problems.

A thing may be seen, touched, smelled etc. These perceptions differ from one another; still they are all experienced as perceptions of the same thing. Abiding by visual perceptions, we again find that the same thing may be seen from different sides, under varying aspects and perspectives. To acquire perceptual acquaintance with the thing, it is necessary to pass from perception to perception, so that the thing may show itself from many sides and progressively reveal its attributes and properties. What presents itself through each particular perception is the thing itself appearing, to be sure, in a one-sided manner, and yet experienced as perceivable from different points of view as capable of appearing in further modes of presentation. Each particular perception thus contains more than it offers in direct and actual sense experience. This "more" consists in references to, or anticipations of, further perceptual appearances of the same thing. Every actual perception implies an horizon the inner horizon of possible perceptions which are expected to occur when the thing is seen from the appropriate point of observation. Here we encounter the role which inactualities of consciousness play in actual experience. Among such inactualities are the acquisitions of the past i.e. acquisitions which once had the mode of actuality but no longer have it, though

they may be reactivated. Even when they are not reawakened, they contribute towards determining the present actual experience which proves to be encompassed by a horizon or immersed in an atmosphere of inactualities which function only implicitly but function nevertheless.

In addition to the preception of a thing being pervaded and permeated by references, anticipations, and other inactualities, the thing perceived appear amidst other things simultaneously perceived, within a perceptual field or outer horizon. To be sure, the perceptual field is not the world; yet it is experienced as a segment of the world. The outer horizon points and refers beyond itself; these permanent references convey our permanent awareness of the world as the universe of possible objects of perception.¹⁰⁰

Husserl advocates an egological conception of consciousness. Every act of consciousness emanates or issues from the ego who lives in that act which by this very token, etc. are centralized in the ego, or, as Husserl prefers to say, ego-pole, as the identical performance of all operations and productions (identischer vollzieher aller Geltungen) It is the identical ego - pole who passes from one phase to the next of his conscious life, retains past experiences, and connects them with the present ones, anticipates such further experiences as will fit into a progressively growing coherent system. Through a multiplicity of presentations the ego directs himself towards the object - pole (that which appears in varying modes or that towards which the varying modes are polarized) as the goal of his intention, and intention which, in the course of the process of experience, is eventually fulfilled. By means of his activities, which may assume different forms, the ego explicates the objects as to their attributes and properties; his activity may be solicited by affections, etc. Correspondingly, inter subjectivity is interpreted as inter linkage between a plurality of egos, as I-thou synthesis or we synthesis. The intersubjectively

identical Lebenswelt is; as we have seen an index of, multiplicities of modes of appearance and presentation, systematically organized. Through these multiplicities, the several egos -- and each one not merely through his own - direct themselves, towards intend, and experience the world as the common field of all their activities.

We mean by egos human beings, an apparently insuperable, paradox is bound to arise. Human beings are themselves mundane existent among other such existents; they belong to, and are part of the world. How then is it possible for a part to constitute and to produce the very whole of which it is a part? If the general program of phenomenology is to account for the world in terms of human subjectivity or intersubjectivity, this program proves to be beset by an utter absurdity, because it amounts to accounting for the world in terms which by their very nature imply and presuppose that which is to be accounted for. Obviously, the paradox hinges on the dual role of man, who is at the same time both mundane existent among others, an object within the world, and a subject with respect to the world derives the sense of its existence.

To surmount that paradox and to achieve some clarity concerning the ambiguous position of man, it is, according to Husserl, both necessary and sufficient to perform the phenomenological reduction with utmost consistency.

In the first of the 1907 lectures Husserl says that the term 'phenomenology' 'denotes a science, a system of scientific disciplines. But it also and above all denotes a method and an attitude of mind, the specifically philosophical attitude of mind the specifically philosophical attitude of mind, the specifically philosophical method. Husserl admits that phenomenology may be taken in that sense as a science, a system of scientific disciplines. He insists that what is important in a phenomenological philosophy, however, is

not the set of doctrines defended, but the method used in their defence. To him phenomenology is primarily a methodology of philosophy.

On the phenomenological programme, philosophy is to be an inquiry into conscious human behavior, and the method of the inquiry is to be experimental and descriptive. This appears in the 1907 lectures. Husserl maintains there that philosophy has to deal with cognitive, and parallel, phenomena, that is to say with the phenomena of conscious behaviour. And it has to deal with these phenomena, he says, under two aspects : as acts of the subject and as objective correlation to those acts. Philosophy has to provide an experience, or the receptivity to data, Husserl uses the term 'intuition'.

Husserl maintains that philosophy is a matter of experience and description. He argues that philosophy should avail itself of a special experience of conscious phenomena, and then described them. According to Husserl, then philosophy 'sets out to be a science and a method which will explain possibilities -- possibilities of cognition and possibilities of valuation -- and will explain them in terms of their fundamental essence. There is a second aspect to Husserl's philosophical experience, it is supposed to be an eidetic experience, an experience of essences.

It is clear that Husserl regarded phenomenology as above all a method of philosophy, if, indeed, not the only possible method and he connected this with another fundamental idea, that of 'philosophy as a strict or rigorous science' (philosophie als strenge Wissenschaft), an idea which seems to run through all his works. And this point is again connected with his idea of philosophy as something which forms of foundation for all other branches of knowledge, so that they cannot really be satisfactorily pursued if it has not properly laid their foundations. This means that philosophy cannot have anything uncertain about it. The Scandal is that so far it had not succeeded in reaching this necessary

certainty. Husserl even bizarrely envisaged the possibility that, once the foundations had been truly laid by his own work, generations of phenomenologists could each perform his descriptive task, confident that the validity of the method would guarantee the certainty of their results. Such descriptive activity would presumably not need great philosophical skill any more than the research students of great scientist need any such. The application of the method to the problem at hand is all that is required.

That Husserl did mean something like this is, I think, fairly clear. In his Philosophy as a Rigorous science (1911) he remarks : 'Kant was fond of saying that one could not learn philosophy, only to philosophise. What is this but an admission of philosophy's unscientific character ? As far as science, real science, extends, so far can one teach and learn, and this everywhere in the same sense. His contrast is with the sciences of mathematics and physics and his aim was to make philosophy like them.

IN OUR DAY AND AGE it has become fashionable to denounce rationalism a source of evil and to hold it responsible for the present crisis, both intellectual and moral. This view is the more dangerous because it contains a half - truth. According to Husserl the present crisis is the crisis of naturalistic objectivism or objectivistic rationalism, the crisis of Western science in the phase of extreme technization in which it has forsaken those philosophical aspirations from which it historically arose. In other words, it is the crisis of a specific historical form of rationalism, the form which rationalism has assumed since the Renaissance.

Phenomenology, Husserl claims, opens up a new chapter in the history of rationalism by establishing a new form of rationalism which, on account of its radicalism, is to supersede the historically transmitted forms-radicality understood in the etymological sense of going to the roots. It is the very idea

of rationalism that motivates and necessitates this transition at the present of the historical development of both philosophy and the sciences. Far from abandoning the idea of rationalism, phenomenology brings it to higher fulfillment.

Husserl's Notion of Intentionality

In Brentano's view the true method of philosophy is the method of the natural sciences. ¹⁰¹ He accordingly regarded philosophy as being scientific in character ; and he thought that the possibility of basing knowledge upon immediate evidence would provide a presuppositionless beginning in philosophy. The following five propositions may serve to characterize Brentano's philosophy : ¹⁰² (1) The basic structure of human existence or of subjectivity is intentionality (2) Every intentional act refers to something real ; "real" meaning everything that comes from concrete intuition, or that can be presented (3) Every cognition refers to an existing thing (4) Every existent is a single or individual thing (5) Every cognition approaches the existent as something general. Brentano's belief that there is an Archimedean point" in philosophy which assures it a permanent foundation represents a motive which becomes prominent in the philosophy of Husserl, beginning with his first programmatic discussion of a scientific philosophy in his essay on "Philosophy as a Rigorous Science".

The lectures on the consciousness of Inner Time (1905 - 1910) and the logos essay, "Philosophy as a Rigorous Science" (1911), illustrate respectively the nature of phenomenological description and the programmatic ideal of phenomenology as the most rigorous of all the sciences. In this period the clarifying function of phenomenology is assigned to an autonomous discipline which serves as the prelude to all other knowledge.

The phenomenological attitude requires the suspension of all assumptions. The existence of the World, and of everything that is "posited", is "bracketed". The phenomena that remains are the subject -matter of phenomenology which is defined as the science of pure transcendental consciousness. The discussion of noesis and noema is especially important in

bringing to light some fundamental structures of experience, and as indicating a fruitful field for research. The "reduction" opens up a universal field for philosophical investigation which is free from all prejudgements and assumptions, hence its crucial methodological importance. Husserl is careful to distinguish eidetic reduction (proceeding from fact to essence) from transcendental reduction, according to which the phenomena are characterized as "irreal", and are not ordered in the "actual world". The method of phenomenological reduction is applied in order to achieve the presuppositionless field of philosophy in the consciousness of an individual ego to begin with, which involves the suspension of all beliefs in transcendent realities. Phenomenology now becomes the most fundamental science and the "absolute" ground of all knowledge.

Throughout ancient philosophy until the beginning of the High Scholastic period, *intentio*, simply had the practical meaning of 'striving toward', 'intent to do something', 'exertion'. The first passages where the expression has thus far been detected with a divergent, theoretical meaning are the translations of Arabic philosophers from the twelfth and thirteenth centuries, especially the translations of Ibn Sina (Avicenna) by Dominicus Gundissalinus and Johannes Hispanus in Toledo.¹⁰³ In order fully to understand the meaning and the motives for these translations, one would need to explore Arabic philosophy. There, *'intentio'* seems to correspond principally, to the word *'ma' 'na'*, which denotes sense, meaning, idea concept, matter.¹⁰⁴ The Latin expression seems to be just as ambiguous. But throughout, *intention* is understood as something which is the object of an act.

Brentano had introduced the notion of intentionality into modern philosophical discussions in the following famous paragraph from his *Psychology from an Empirical Standpoint* :

Every mental phenomenon is characterized by what the scholastics of the middle ages called the intentional (or mental) inexistence of an object and what we might call, though not wholly unambiguously reference to a content, direction towards an object (which is not to be understood here as meaning a thing), or immanent objectivity. Every mental phenomenon includes something as object within itself although they do not all do so in the same way. In presentation something is presented in judgement something is affirmed or denied, in love loved, in hate hated, in desire desired and so on This intentional inexistence is characteristic exclusively of mental phenomena. No physical phenomenon exhibits anything like it. 105.

The concept of the "intentionality of consciousness" is the foundation of phenomenological philosophy. Going back to scholastic philosophy, Franz Brentano had maintained in his *psychologie Vom empirischen standpunkt* (1924) that the difference between physical and mental or psychical phenomena is to be found in the fact that mental phenomena refer to, and are directed toward, an object which they intend. Husserl adopted Brentano's notion of intentionality and refined it.

Let us take an example to understand Husserl's concept of intentionality for eg. it is indeed a fact, a simple fact determined by external conditions, that I am going to such a concert today and that I am hearing the Ninth symphony. But I am able to discover inside this experience, as I live it through, something which is independent of the factual conditions which have brought forth my decision. The Ninth symphony is not enclosed within the time during which I am listening. It appears in the different performances of different Orchestras. It is a cultural object which is brought forth under the baton of this director and through the playing of these violinists. But it cannot be reduced to any single performance that one gives of it. Hence if I succeed in bringing out of my

experience all that it implies, in thematizing what I have lived through at this time, I come to something which is neither singular nor contingent namely, the Ninth symphony in its essence. This Orientation of consciousness toward certain "intentional objects", which are open to an "eidetic" analysis, is what Husserl calls intentionality.

One can say that, by its antecedent conditions, my consciousness is bound to the contingent events which act on me. But in so far as it envisages certain terminations in so far as it has a "teleology", in so far as it is concerned with certain cultural entities which are not divided by their different manifestations at different moments of my life or in different minds, it is open to a different kind of analysis. According to Husserl, the seeing of essences, or *wesensschau* is nothing but the clarification of the sense, or essence, toward which our consciousness is directed. He says in the *Ideas* that we should give neither a mystical nor even a platonic meaning to the word *wesensschau*. It does not involve the use of a super-sensible faculty absolutely strange to our experience and exercised only under exceptional conditions. *Wesensschau* is constant, he says, even in a life that conforms most closely to the natural attitude.

For Husserl, the intentionality of an act is mediated by way of an intentional content, which in *Ideas*, he calls the noema. The noema is to be distinguished from the object intended; at the same time, it is also not a general essence. David Woodruff Smith takes it as an abstract or ideal entity. 106 Husserl further says that it is by way of the noema that an act refers to the object; noema mediates intentional reference. The approach of Husserl therefore requires a three-fold distinction between, act, noema and object. The content, or the noema, gives the act its peculiar and characteristic intentional

directedness to the object. It is this which is specifically intentional but it itself is not the object intended.

MacIntyre and Woodruff Smith summarize the essential feature of Husserl's theory in the form of six major theses :

1. The content of an act is to be sharply distinguished from the object; whatever is true of the object is bracketted out in the transcendental reduction and hence is not available for a phenomenological explication. The content which makes the act intentional is not itself seen or noticed in the ordinary attitude. It is revealed only in transcendental reflection after the epoche.
2. The content alone confers intentionality on the act ; it is this which gives the act its relation like the character of being 'of' or 'about' some object.
3. If the intention is successful, the act reaches an existing object and not any other because it is this object to which the content directs it.
4. But even if the intention is unsuccessful, even if there is no such object prescribed by the content, the prescribing or 'pointing' character of the content is unaffected. The act's intentional character is independent of the existence or nonexistence of the object.
5. On the other hand, the content of the act is closely connected with the conception or ways of conceiving the object.
6. The object of the act is transcendent in the sense that it has further properties than what are included in the content. 107

From these discussions, we may distill the following characterisation :

1. Every act includes a constituent part, a noesis which is meaning-giving.

2. The noesis of an act entertains exactly one noema which is a sinn or meaning.
3. Although for every noesis, there is one noema, the same noema may be entertained by different noesis. The relation between noeses and noema is a many-one relation.
4. Different noeses and hence different acts may entertain the same noema.
5. The noema is an ideal entity; it is not a real event either in consciousness or in the external world. Noema are meanings or 'sinne'.
6. Since noema are not real components, they can be grasped only after all objects are suspended by the epoche.
7. The noema is distinct from the object.
8. Yet there is an intimate relation between the two, for intentional reference to the object takes place by way of the noema.
9. The noema prescribes the object by way of the determinations contained in it, eg. "The author of Waverly' prescribes Scott as determined in a certain way, or as having a certain property.
10. But the same transcendent object could be referred to by different noema, in the sense that it could be identified as having other properties. Hence, different noema may converge upon the same object.

For Husserl, the noema determines the reference of the intentional act. The basic question to be answered is how exactly the noema fulfils this directive function. We are offered a highly significant clue which we are told that the noema is a sinn or meaning.

Husserl distinguished the act of knowing (noeses) from the object (noema), whether existent or imaginary. To be conscious is to experience an

act of knowing in which the subject is aware of an object. A conscious act is an act of awareness in which the subject is presented with an object.

The notion which is at the center of the Husserlian conception of consciousness : namely, that of intentionality. It has all too often been remarked that, according to this conception, every act of consciousness is a consciousness of something, that every act of love is a love of something, and so on. It is necessary, however, to analyze the phenomena more precisely instead of contenting ourselves with a formula which is almost merely verbal.

To understand Husserlian conception of intentionality let us take the example of the perceptual process. I perceive a house from a certain point of view, and this house (it does not matter whether it is familiar to me or not) presents itself under a certain aspect, in a certain perceptual adumbration, in a certain orientation (from far or near, in front of me or at the side, and so on). Perceived from another point of View. the same house presents itself under a different aspect, and it is between these aspects (which vary according to the points of view) that the perceptual synthesis is passively established. What, then, is this house perceived, as presenting itself under a certain aspect rather than another? The question concerns the house qua perceived, precisely and strictly as it appears through a determinate perceptual act or, more briefly, the house perceived as such. Obviously, the house qua perceived in the above sense cannot be considered as a mere sum of sensory data in the sense in which Hume uses the term. No more can the house qua perceived be taken as the real house qua physical things, a thing which can be perceived from diverse points of view and present itself under different aspects. For here we have to do with the house appearing under one well - determined aspect and not under another one.

Finally, one must distinguish the thing perceived as such from the perceptual act. A rather simple reflection will serve to make this clear. Suppose that we place ourselves at a certain point of observation from which we look at the house without moving, and suppose that we alternately close and open our eyes. Each time we open our eyes we experience an act of perception which, once it is past, can never recur, as this generally holds for all acts of consciousness. Thus we have to distinguish the perception which we experienced before closing our eyes from the one which we are experiencing now that we have opened them again. We find, therefore, a multiplicity of perceptual acts which differ from one another (be it only because of their places in phenomenal time) and which can be enumerated. Meanwhile we perceive not only the same house qua physical thing but are also confronted with the same thing as presenting itself to us under the same aspect; briefly, we are faced with the same house perceived as such. The latter being neither the physical house nor an act of consciousness, we have to recognize the perceived qua perceived as a special and specific entity ---"perceptual noema" is the technical term which Husserl uses. For this entity there was no place in traditional thought, because the only distinction admitted was that between things or physical events, on the one hand, and, on the other, acts of consciousness.

The analysis of the example taken from our perceptual experience has made us aware of both an opposition and a correlation between an identical and identifiable unity -- the perceptual noema - and an indefinite multiplicity of act of consciousness, all different from one another, if only by their respective places, in phenomenal time. Acts of perception are intentional acts because, through each of them, perceived thing appears under a certain aspect and in a certain mode of perceptual presentation because, in one word, to each of them

there corresponds a perceptual noema and we remember the same noema can correspond to a multiplicity of acts. What is fundamental here is the notion of noema. According to a very telling remark made by Berger some years ago, Husserl has discovered a category which is more fundamental than that of being or of non-being; namely, the category of the object intended as such, of the object as intended through a concrete act of consciousness. 108

This phenomenon or noematic sense is that "content" of the transcendental noema by virtue of which the noema, and through the noema, consciousness, is related to an object. 109 The noematic sense is correlated specially with the "sense-giving" moment (the apprehension) on the noetic side of consciousness 110 and refers to the same object to which that noesis refers. 111 The object referred to, considered in abstraction from its predicates, is also said to be part of the transcendental noema and of its sense. 112 It is the "determinable subject of its possible predicates" - The pure X in abstraction from all predicates " the identical moment in different transcendental noemata which refer to a "Same". 113 By "predicates", Husserl means determinations of the perceived object, and not as we shall see, of the appearance of the object. In the case of a mere thing, these predicates would comprise whatever could be said of an object in formal or material ontological terms on the basis of a given perception, for example, it is a "thing" it has this or that "shape" and "color", it is "hard", "rough" etc. 114 Thus, the noematic sense is that part of the transcendental noema which is "described in objective terms only" 115.

The best way of presenting this dimension of the noema is through an example. Let us imagine that we are seated at one end of a long rectangular table looking at its top surface, whose color is brown, and that we perform the phenomenological epoche, i.e., We reflect on what we see, but in our reflection

act we refrain from participating in the "actuality" of what we see. We say : "In this perceiving there is a 'table' which is 'rectangularly shaped', is 'in front of me' and is 'brown'. This is a description of the noematic sense the single quotation marks serving to signal the change of meaning the words have as a consequence of the epoche, and indicating in each case that we are now talking about a "phenomenon of" "In front of me' denotes what Husserl calls the "Orientation" of the object. Other orientations, some of which could be realized if we changed our position, are 'above' and 'below', 'right' and 'left', 'near' and 'Far'. ¹¹⁶ These also belong to the transcendental noema and to the noematic sense in its "fullness" ¹¹⁷ Although they are not predicates of the object perse, but are objective determinations of the situation. In addition to those, the table is experienced to be one having many other predicates not directly seen, for instance, four legs, an underside which has some color or other, perhaps not the same as the top, etc. Such predicates make up the implicit moments of the noematic sense.

Let us concentrate now on what is visible to us of the table, seated, as we are, before it. We suppose this to be only the top surface. Husserl calls this a "side (seite) of the object. ¹¹⁸ If we walked around the table, viewing it from different distances, we would experience a continuum of sides. Let us suppose that we rise from our seated position, but do not move from the table, so that it is still only the top of the table is visible, no new determinations of the table coming into view. During our movement the same side is given, and the shape of the side. (i.e., of the table top) is experienced to remain unchanged. Yet, something changes. If our mental glance is properly directed we may note, for instance, that as we rise the angles formed by the left and right edges of the table top and its far edge seen to get "smaller", and that, from our standing position, the left and right edges seen more "parallel" than

before. These changes are not experienced to be changes in the table itself, i.e., in the "side", but in the mode of givenness of the side. Husserl calls a mode of givenness of a side an "aspect" (Aspekt) 119, or a "perspective" 120 "Aspects" are adumbrations on the noematic side of consciousness,¹²¹ and are correlative to the (apprehended) hyletic data on the noematic side, i.e., to the noematically understood adumbrations.¹²² We are not usually aware of such perspectival changes described above, although, according to Husserl, changes in orientation are necessarily given through such perspectival adumbration,¹²³ are things generally.¹²⁴

The difference between an appearance and noematic sense is indicated by Husserl in another way in an unpublished manuscript.¹²⁵ There, Husserl distinguishes a "side" from an "aspect" by noting that an aspect, unlike a side, has no inner or outer horizon. This means that the aspect has no details which could come into view if one "stopped closer" to it, nor can it be seen in another perspective.

Husserl's analysis begins by uncovering what can be found in the flow of mental life of an awake subject. His purpose is to develop the concept of "process of consciousness (Bewusstseins-erlebnis).¹²⁶ He first discloses what is called "attentional consciousness", (i.e., when we subtract all the subjective appearance (eg. illusory appearances which arise because of conditions affecting our perceptual processes. It is perhaps because of their deceptive nature that Husserl says that they must be "struck out of" the world from the world, we are left with the world as it is in itself. Thus we have here a new concept of "Itself" or "In-itself" (Ansich). Before, an "Itself" was conceived as something which is on hand with respect to attentional consciousness, and as part of that, was something whose being-there was independent of attentional consciousness mental processes (Erlebnisse), such as perceptions, in which an

ego is turned toward an object. This is consciousness in the mode of actuality (Aktualitat). But, as Husserl says, "the stream of experience can never consist wholly of actualities".¹²⁷ When we attentively perceive an object. We are also aware of other objects around it and this awareness is also a process of consciousness, albeit in the mode of inactuality.¹²⁸

The thesis that consciousness constitutes the world is the thesis that the being there (Dasein) for us of the world and of anything that is in it is an achievement (Leistung) of consciousness. This thesis is not the seemingly obvious one that I must "be conscious", that is, be awake, for the world to be given to me.¹²⁹ Such a thesis would consider consciousness to be a state or condition which I must be in so that what is there all along and on its own and become manifest to me. Becoming conscious in this sense is like experiencing the lighting of a dark room, and like the phenomenon of light consciousness can be thought to be a transparent and homogeneous medium which allows the existence as well as the true structures and qualities of objects to be revealed to me -- but precisely by being itself unstructured and without qualities.

In the literature on Husserl's philosophy there has been considerable discussion of what it is that consciousness achieves when it is said by him to "constitute" the world. All responsible interpreters are in agreement about what this achievement is not. It is not a creating of the world in the sense of "causing" it to be.¹³⁰ But there seems to be less agreement on what this achievement is. For Sokolowski, "consciousness constitutes the world" means that it is a necessary condition for the world to become real,¹³¹ it "allows (objects) to emerge as real."¹³² Carr denies that this is what Husserl means.¹³³ In this interpretation, consciousness is constitutive of the world in the sense that it is responsible for the givenness of objects, for the being of

objects for me. Consciousness renders objects present.¹³⁴ For Mohanty, constitution in Husserl means constitution of the sense of objects.¹³⁵

Husserl attempts to demonstrate that consciousness constitutes the world. But the sense and import of this demonstration cannot be understood until one more thought, which may have occurred to the reader, is dispelled. It might be asked: "In saying that 'it is through consciousness that a world is there for us', don't you simply mean that consciousness is intentional? Isn't that Husserl's response to the problem of cognition? But the intentionality of consciousness is not something that Husserl sets out to demonstrate through an argument; it is simply a descriptive finding".

Consciousness includes within itself intentional subjective processes of such scope complexity, and joint functional efficacy so as to make the world, with its "whole content and ontic validity"¹³⁶ there for me. Demonstrating this thesis, then, involves showing (1) That consciousness has such a scope that its intentional content is wide enough to be coextensive with the world, and (2) that the transcendent reality of the world can be accounted for in terms of consciousness.

When Husserl's various "introductions to phenomenology" are looked at together in order to discern the structure of the line of thought which runs through them all, one finds after a discussion of the motivating problem an attempt by Husserl to demonstrate that consciousness constitutes the world, i.e., that the being there for us of the world and of what is in it is an achievement of consciousness.

Thus consciousness, as we have understood it thus far, is not only "medium of access" to the world, and subjective appearances do not, as it were, enclose us completely such that the world is only given to us through

them. Rather, consciousness has "holes" through which the world "shines" directly in on us and through which the world is given to us as it is in itself.

The epoche brings about intuitive access to the world as a being-for-consciousness and to consciousness in its functioning to constitute the world. Describing the epoche as a "liberation" from the natural attitude, Husserl writes, "Given in and through this liberation is the discovery of the universal, absolutely self enclosed and absolutely self-sufficient correlation between the world itself and world-consciousness".¹³⁷ The epoche creates an attitude of focussing on this correlation and in this attitude the world..... becomes itself something subjective", a "transcendental phenomenon".¹³⁸ As remarked earlier, the reduction of the world to a subjective transcendental phenomenon does not imply the world is seen as a really intrinsic part of consciousness. The world is immanent in consciousness "ideally". it is an immanent "objective sense of consciousness."¹³⁹ States generally, the problem of the "constitution" of the world and of mundae objects concerns the disclosure of how an "actually existing world" nad "actually existing wordly objects" arise for us a noematic senses and are maintained as valid through a correlative constitutive intentionality.

It is possible (by means of the example of the perception of a stable thing) to demonstrate the superiority of the Husserlian conception of consciousness as against that advocated by Kant. The problem which we have in view there is concealed in Kant because of the preomnience he gives to the relation of causality in both the Kritik der Reinen Vernunft and Prolegomena. To bring this problem out, we shall take a glance at the Kantian analysis of the relation of causality.

Suppose we have the same experience or do the same laboratory experient on several occasions. For instance, we heat a metal rod and

observe a certain elongation. It is common to speak of a repetition of the same observation, of the same experience or the same process. Let us consider this more carefully. Each time that we do the experiment in question, we measure the length of the rod, we heat it and measure its length again. Each experience furnishes us with a series of sensory data : the first one with the data a_1, a_2, \dots, a_n ; the second one with the data b_1, b_2, \dots, b_n and so on. Comparing these two series, we find that the sensory data respectively resemble one another : a_1 is similar to b_1 , a_2 is similar to b_2 , a_n is similar to b_n . One can go even further to say that these sensory data are totally like each other respectively, but they can never be taken as identical because the first series occurred, let us say, twenty minutes before the second. Though there may be similarity between the sensory data - even, if one wishes, perfect likeness - there can never be identity what is identical is the law which governs the relation between the rise of the temperature and that extent of the elongation. According to Kant, the identity of the law is guaranteed by the identity of the function pertaining to the pure transcendental apperception which on each occasion, operates in the same manner. Properly speaking, there is no repetition of the same process; there is only an identical law which governs an entire series of processes. Furthermore, there is a similarity or likeness between the sensory data which appear each time the experience is had.

This brief analysis will help us to understand the difficulty which the Kantian theory faces when it deals with the perception of a stable thing. Let us consider the example of which Kant himself made use (without, however, sufficiently analysing it) : the perception of a house. Kant remarks that I can look at this house from top to bottom or else from the bottom to the top. Sensory data successively follow one another in each observation; but their

succession is not ratified by the pure transcendental apperception; in contradistinction to the case of the causal relation where the sensory data succeed one another not only in fact but also by rights. To simplify the matter, let us suppose that we always look at the house in the same direction, say, from top to bottom, and that we do this several times. Each time we experience a sequence of sensory data : the first time, the sequence a_1, a_2, \dots, a_n the second time, the sequence b_1, b_2, \dots, b_n , and so on. Here again, a_1 and b_1 and a_2 and b_2 up to a_n and b_n , are similar to one another or are the respectively alike, but they are in no way identical. Contrary to the causal relation, there is here nothing identical, not even a law. Now, therefore, can we speak of the "something and maintain that it is perceived on several occasions? Under these conditions, it is hard to see how the consciousness of identity could ever emerge or by what right we say, as in fact we do at every moment and without the least hesitation, that the diverse perceptions are all, in spite of the differences between them, perceptions of the same house.

Kant's theory fails in the face of a problem which, we repeat, is concealed in the case of the causal relation. Before, we were confronted not only with different sequences of sensory data but also with different physical processes (the actual elongation of the rod each time it is heated). In the case we are now considering, however, the perceived thing stands, in its very identity, over against a multiplicity of perceptions or sensory data.

We have taken these sensory data as psychological facts, refusing to adopt the interpretation of Paton, who has suggested that Kant deliberately identified "sensory data" with "sensible qualities" as states of things.¹⁴⁰ If this interpretation is in keeping with Kant's intentions, the criticism which Husserl has expressed as regards Locke and the entire empiricist school also applies to

Kant. This criticism consists in pointing out the confusion of sensory data (Empfindungen) considered as psychological facts with the sensible qualities of things which, while presenting themselves by means of sensory data, in no way coincide with these.¹⁴¹ Husserl considers this confusion as an hereditary vice of modern thought, both philosophical and psychological; it is facilitated and even suggested by the same words ----- such as "red", "hot", "hard".

Husserl distinguishes further between perception and intuition. One may perceive and be conscious of the fact that one perceives an object without understanding its essence, what it is, its principle of being an identity. Intuition of the essence of an object is the source of meaning and intelligibility of the particular phenomena. Eidetic intuiting (Wesensschau) is insight into essences through the experience of exemplifying particulars. Such particulars may be given in either perception or imagination. Intuition is intrinsic to the exercise of understanding and is not to be thought of as involving some faculty independent of reason. Intellectual reflection is not mere passive introspection of facts or mental events but involves the active effort of a subject who grasps and understands the objective meaning of his experience.

Heidegger's theory of the temporality of Dasein in Being and Time has more in common with Husserl's conception than the terminology would lead us to expect. Even if Heidegger avoids some of the basic terms of Husserlian phenomenology, such as consciousness, experiences, and others one can say first of all that both theories concern not a conceptualized but alived temporality.

The priority of the future derives from the projective character of Dasein. This character can be seen as corresponding roughly to Husserl's concept of intentionality. Things have meaning the world has meaning, because Dasein projects their being, that is, grasps them in terms fo their purposes (waraufhin).

But this happens only in so far as Dasein projects itself, i.e., grasps itself in terms of its possibilities. In this sense, Dasein is, as Heidegger says, always ahead of itself.¹⁴² For Dasein according to Heidegger, possibility stands "higher" than actuality in the sense that what is understood in the light of possibility. Thus the present and past are grasped together and interpreted by way of the future.

As Mohanty puts it, what is involved in Heidegger's critique of Husserl is the entire issue of the primacy of consciousness.¹⁴³

Any philosophy which takes intentionality to be basic may be called a philosophy of consciousness. Hence the shift involved in the movement from Husserl to Heidegger is the shift from a philosophy of consciousness to a philosophy of being. What is involved in this shift is the questioning of the primacy of consciousness. At this level, a hermeneutical philosophy appears as a critique of consciousness.

Husserl and Dilthey

The central aim of Dilthey's long working life was to gain knowledge of the human world, the social -- historical reality, as he often called it. All his particular undertakings -- his massive schleiermacher biography and shorter biographical sketches, his literary and historical studies, his work on education, music and law were intended to be parts of more comprehensive studies of German culture, of the basis of individuality or of the history of the human studies. Ultimately they were all to contribute to a general understanding of man.

His theories are based on his recognition that the human world with which the social sciences deal, differs significantly from the physical world which is the subject-matter of such sciences as physics, chemistry or biology. Human beings, unlike stones and trees, or even insects and guinea pigs reflect what they do. They interpret the situations they are in, set themselves deliberate aims and plan for the future, communicate with each other, adopt conventions and follow traditions; we cannot study man without taking these into account. To this we must add that in the human disciplines men study themselves and their fellows. They bring an immediacy of insight to the study of human world but are also exposed to the danger of prejudice.

Some of the salient features of Dilthey's methodology are : (1) We must start our investigation with painstaking descriptions and careful analysis of the most complex phenomena we encounter ; these include the mental processes of nature, cultured personalities, the imagination of poetic geniuses, the strong will of great statesman, the functioning of elaborate cultural systems or sophisticated social organizations, the structure of rich languages and systematic philosophies.

Dilthey thus rejected the analytical or back and mortar approach which starts, from simple elements and attempts to reconstruct more complex entities from them. He believed that human life as we know it cannot be accounted for by a hypothetical combination of elementary responses, instincts observed in animals or children and artificially elicited laboratory responses.

Complex structures can, and should be analysed so as to reveal the elements they consist of but, if we begin with these, we cannot easily recapture the richness of experience which gives human life its distinctive qualities. For this reason he advocated and illustrated in his own work the use of autobiographies, literary works, letters and diaries as suitable material for research.

Social -- historical reality consists of individual human beings for they alone think, feel and act and so produce languages, religions/and institutions. Dilthey was convinced that such mysterious entities as the collective mind, the common will or a national spirit have no real, independent existence. This conviction did not convert him to methodological individualism (ie he did not believe that the individual was the only subject-matter of the social sciences)¹⁴⁴. He considered that to reduce all social and cultural phenomena to the activities of individuals was methodologically impossible and believed that the use of various impersonal, theoretical entities was both necessary and justifiable. When people share beliefs and attitudes or act together to produce particular results and achieve a common purpose we can attribute ideas, policies or actions to classes, nations and associations. We can speak of the decisions of committees, and the spirit of an age.

Social studies/sciences deal with 'Man'. There are natural sciences which deal with nature. Are these two types of studies same? Can we use one method to study both of them? William Dilthey (The German Philosopher) put

forward the thesis that the method of natural science cannot be used in social science because physical and social phenomena cannot be equated. He said that there are two categories of sciences (1) Monothetic and idiographic i.e. sciences about nature i.e. naturwissenschaften and human social sciences i.e. Geisteswissenschaften/kulturwissenschaften. Natural sciences for e.g. physics, chemistry, geology, Zoology etc study the structure, constitution, mass, they fragment/dissect etc. So they are objective while social sciences dealing with man has within it geist /mind because human phenomena conceal behind them purposes, motives, intentions, designs, will etc. i.e. subjective states of men which are private and unverifiable. Dilthey in order to emphasize this point pointed out that studies such as history, psychology, economics, sociology, anthropology, comparative jurisprudence comparative religion, criminology etc in which both the observer and the observed are meaning givers. One can't look at mind by isolating it from culture.

Because Dilthey pioneered and lovingly elaborated an approach to the human studies based on understanding and hermeneutics he has often been understood as advocating this approach as a complete methodology superseding and excluding other methods. To set the record straight one must, first of all, eliminate an ambiguity in Dilthey's use of the term Geisteswissenschaften which makes him responsible for some of these misapprehensions. Dilthey used this term - though with some misgivings as to its adequacy-as a translation of 'moral sciences' i.e. the human disciplines like history sociology, jurisprudence, linguistics and literary criticism. But he also used Geisteswissenschaften in contrast to the Naturewissenschaften which deal with matter for the disciplines which deal with mind and its products. These are only accessible to understanding and require interpretation. If men were disembodied minds the studies of man would coincide with the studies of

mind. Obviously this is not so, a fact which Dilthey recognized and stated emphatically. So Geisteswissenschaft, in the sense of the study of mind, can only be a part, through a crucial one, of the Geisteswissenschaften in the sense of the studies of man. This ambiguity has, inspite of Dilthey's warnings, led many commentators astray.

Dilthey was concerned with the whole human being who, for him, was a physical unit, a person. Mind and matter were, merely convenient concepts arrived at by abstraction from the rich variety of experience. So, having differentiated the sciences from disciplines which deal with mind in terms of subject -- matter, we must put them together again in the study of man. This was Dilthey's programme and he was passionately interested in the development of physiological psychology, man's place in the evolutionary scale and the role of the physical environment, all of which involve the use of scientific methods. This is obscured by the fact that Dilthey made no original contributions to these spheres, but it should be stressed that his theoretical framework can accomodate any kind of approach from ethnomethodology to physiological psychology.

Dilthey's views on man reminds one of Schiller's views. Schiller's statement that the proper study of mankind is man is very close to what Dilthey says.

The human studies embrace many physical facts and are based on knowledge of the physical world. If one could imagine purely mental beings in a community which only consisted of such beings then their emergence, preservation, development and extinction would be dependent on purely mental conditions (whatever idea we may form of the background from which they emerged and into which they receded); their welfare would be based on their relation to a world of mind, their contact with each other and their interactions

would be purely mental and would result result in purely mental consequences; even their eclipse from the realm of such beings would have its cause in the 'Geistwissenschaften'. In fact, an individual like any other animal originates, survives and develops through the functioning of his body and its relation to his physical environment; his sense of life is at least partly, based on this functioning ; his impressions are conditioned by his sense - organs and the way they are affected by the environment; the wealth and flexibility of his ideas and the strength and direction of his acts of will are, in many ways, dependent on changes in his nervous system. His acts of will contract muscles and so his impact on the outer world is tied to the molecular movements of his body; the permanent effects of his acts of will only persist as changes in the material world. If we want to separate outer man's mental life it must be abstracted from the psycho-physical unit which is the whole man organized into society men from the reality which is subject-matter of the historical social disciplines.

Whatever the metaphysical facts may be, man as a whole may be regarded from two points of view; seen from within he is a system of mental facts but to the senses he is a physical whole, Introspection and perception are separate acts as we can never grasp what goes on in man's mind at the same time as we observe his body. So a scientific approach which tries to find out the relationship between the mental and the physical expressed in the unity of body and mind is compelled to adopt two irreducible points of view. If I start from inner experience I find that the whole external world is given in my consciousness and that all the always of nature are subject to the conditions of my consciousness and therefore depend on them. This is the point of view which German philosophy at the turn of the eighteenth century described as transcendental philosophy. But if I start from the physical world as I see it, I notice that mental facts have their place in the temporal and spatial

arrangements of the external world and the changes in mental life result from interference natural experimental -- with the nervous system. Observation of human growth and of the illness extend these impressions into a comprehensive picture of how the mind depends on the body, this is the origin of the scientific approach which proceeds from the external to the internal, from material to mental changes. The antagonism between the philosopher and the scientist is conditioned by the contrast in their starting points.

The Human world, that is human society and history, is the highest phenomenon of the empirical world. Therefore, to understand this human world, we must know about the system of physical conditions which constantly determines its development. Man, because of his position in the causal context of nature, is conditioned by a double relationship to it.

Dilthey described himself as a philosopher of life because his thinking rested on three related theses. The first was his version of the empiricist principle that all knowledge is based on experience. The second was the theory that all philosophy arises from and refers to the problems of everyday human life. The third embodied the idea of that philosophy must be closely linked to the knowledge of life acquired by the empirical human studies.

Nietzsche represents and articulates the final consequence to be drawn from the denial of discursive, logical knowledge. Man as a creator of culture is, for him first, the artist then the scientific consciousness and finally, because he despairs of that mission too the philosopher who creates and sets values.

Let us turn our gaze from man's body to his spirit, the theme of the so-called humanistic sciences. In this sciences theoretical interest is directed exclusively to human beings as persons, to their personal life and activity, as also correlatively to the concrete results of this activity. To live as a person is to live in a social framework, wherein I and we live together in community and

have the community as a horizon.¹⁴⁵ New communities are structured, in various simple or complex forms, such as family, nation or international community. Here the word 'live' is not to be taken in a physiological sense but rather as signifying purposeful living, manifesting spiritual creativity in the broadest sense, creating culture within historical continuity. It is this that forms the theme of various humanistic sciences. Now, there is an obvious difference between healthy growth and decline, or to put it another way, between health and sickness, even for societies, for peoples, for states. In consequence there arises the not so far fetched question : how is it that in this connection there has never arisen a medical science concerned with nations and with international communities ? The European nations are sick; Europe itself, they say, is in critical condition. Nor in this situation are there lacking all sorts of nature therapies. We are, in fact, quite overwhelmed with a torrent of naive and extravagant suggestions for reform. But why is it that so luxuriantly developed humanistic sciences here fail to perform the service that in their own sphere the natural sciences perform so competently?

The greatness of the natural sciences consists in their refusal to be content with an observational empiricism, since for them all descriptions of nature are but methodical procedures for arriving at exact explanations, ultimately physico-chemical explanation. They are of the opinion that "merely descriptive" sciences tie us to the finitudes of our earthly environing world. Mathematically exact natural sciences, however, embraces with its method the infinities contained in its actualities and real possibilities. It sees in the intuitively given a merely subjective appearance, and it teaches how to investigate intersubjective ("objective") nature itself with systematic approximations on the basis of elements and laws that are conditionally universal. At the same time,

such exact science teaches how to explain all intuitively pre-given concretions, whether men, or animals, or heavenly bodies, by an appeal to what is ultimate, i.e., how to induce from the appearances, which are the data in any factual case, future possibilities and probabilities, and to do this with a universality and exactitude that surpasses any empiricism limited to intuition. The consistent development of exact sciences in modern times has been a true revolution in the technical mastery of nature.

"In normal practical life", writes K. C. Bhattacharyya, nature is not consciously exploited as a tool but is negotiated in the primitive spirit of sociableness. It is the arrogant exploiting attitude of science toward the object that provokes a self-healing reaction of the spirit in the form of philosophy or some cognate discipline. The spiritual demand is that nature should be contemplated and not merely used or manipulated.

In the humanistic sciences the methodological situation is unfortunately quite different, and this for internal reasons. Human spirituality is, it is true, based on the human physics, each individually human soul life is founded on corporeality, and thus too each community on the bodies of the individual human beings who are its members. If then, as is done in the sphere of nature, a really exact explanation and consequently a similarly extensive scientific practical application is to become possible for the phenomena belonging to the humanistic sciences, then must the practitioners of the humanistic science consider not only the spirit as spirit but must also go back to its bodily foundations, and by employing the exact sciences of physics and chemistry, carry through their explanations. The attempt to do this, however, have been unsuccessful (and in the foreseeable future there is no remedy to be had) due to the complexity of the exact psycho-physical research needed in the case of individual human beings, to say nothing of the great historical communities. If

the world were constructed of two, so to speak, equal spheres of reality - nature and spirit -- neither with a preferential position methodologically and factually, the situation would be different. But only nature can be handled as a self - contained world; only natural science can with complete consistency abstract from all that is spirit and consider nature purely as nature. On the other side such a consistent abstraction from nature does not, for the practitioner of humanistic science who is interested purely in the spiritual, lead to a self - contained "world", a world whose interrelationships are purely spiritual that could be the theme of a pure and universal humanistic science, parallel to pure natural science.

It is said that a strictly empirical human science, if is to account for the most distinctive features of man's behaviour, is simply impossible. The reason for this contention is that such a science cannot account for the meaning of man's actions, although it can perhaps deal with their physiological aspects or conditions. Furthermore, it is said here that man's behaviour is not governed by uniformities and laws, because of the fact that it is essentially intentional, purposive, free, temporal, historical, and reflexive. This separatist view has been defended among others by Winch, Oakeshott, Peters, Tayfel, Gewerth, Turner, and Malcolm. Some of these authors have suggested the idea that a further development of Dilthey's conception of interpretative science could ultimately lead to a non-naturalistic, but still strictly scientific study of man's behaviour. It is not impossible that Weber's publications have contributed to this later view. 146

1. Another set of arguments for the impossibility of a science of man whose methodology coincides with the rest of the sciences, rest on an alleged inability of the scientific method to capture the uniqueness of human

phenomena. Since it is to the uniqueness of human activities and events that the scientists interest is turned and since the method of science is capable of systematizing only by generalizing it follows that some method other than the usual scientific ones must be employed by the human sciences. P. Winch in his book The Idea of a Social science exemplifies this basic thesis.

Individual human beings and groups are sensitive to values, they are attracted to purposes, and they make projects. But how is it possible to measure 'values'? And even if we accept an 'objective hierarchy of human values' and believe that the appreciation of values gives rise to motives which determine a man's action, how do we know what an individual man or group is going to decide and choose? Are we not here fully in the realm of the purely subjective where no science is possible?¹⁴⁷ These authors argue, the difficulties mentioned here point to reasons why the empirical study of man is affected with serious difficulties. In the phenomenological literature we find the view according to which every empirical approach to the human reality is doomed to failure in principle and that the only legitimate approach to man is to be found in the phenomenological this latter term to be interpreted either in the sense given to it by Husserl in his phanomenologische psychologie (1925),¹⁴⁸ or in the sense given to it by Heidegger in sein und Zeit (1927).¹⁴⁹ Other phenomenologists have argued that an empirical approach to man's behaviour is indeed, possible within certain limits, but that the genuinely human meaning of the results of this type of investigation is to be clarified by a Philosophical study of man which at the same time must give the ultimate foundation to empirical research and its results. It is assumed here that this 'philosophical anthropology' is to be developed within the confines of the phenomenological or existential philosophies. There are a great number of phenomenologists who, following both Husserl's and Heidegger's deeper intentions, defend the view

that empirical research in the realm of social phenomena is possible and necessary, but that such an approach is to be complemented by descriptive and interpretative approaches which take as such are not yet philosophical in character. 150

The current sciences of man have gravitated into a situation of Crisis. A discord has settled in on this scene, producing a veritable Tower of Babel in which each of the several human sciences speaks with its own tongue, resulting in a distressing breakdown of communication not only within the human sciences but within the republic of human knowledge more generally.

As anyone acquainted with the literature can testify, we are not alone in this assessment. Already in 1928 Max Scheler called our attention to the troubled condition affecting the scientific and philosophical study of man. Man is more a problem to himself at the present time than ever before in all recorded history --- we have a scientific, a philosophical, and a theological anthropology, in complete separation from each other. We do not have a unified idea of man. The increasing multiplicity of the spiritual sciences, valuable as they are, tend to hide man's nature more than reveal it.¹⁵¹

Two decades later, Ernst Cassirer, admittedly approaching the issue from a somewhat different perspective, nonetheless came to a remarkably similar general conclusion : "psychology, ethnology, anthropology, and history have amassed an astoundingly rich and constantly increasing body of facts..... But our wealth of facts is not necessarily a wealth of thoughts. Unless we succeed in finding a clue of Ariadne to lead us out of his labyrinth, we can have no real insight into the general character of human culture; we shall remain lost in a mass of disconnected and disintegrated data which seem to lack al conceptual unity."¹⁵² In still more recent times, the two French philosophers, George Gusdorf and Paul Ricoeur have echoed the very

concerns of Scheler and Cassirer. Gusdorf writes : "We need only to consider the present state of the human sciences to ascertain that they are in complete confusion. They are developing, most certainly, and they are multiplying their works, but the technicians of the various disciplines usually do not know precisely what they want nor what they are doing" ¹⁵³ Paul Ricoeur provides a consummate assessment of the situation when he concludes : "The sciences of man are dispersed into separate disciplines and literally do not know what they are talking about ". ¹⁵⁴

Heidegger too closely associated the travel of the human sciences with the entrapment of technology. According to Heidegger the advent of the scientific -- technological frame (Gestell) has produced a crisis of technification that goes to the roots of all scientific thinking. Scientific thought has itself become technologized, which means that science is no longer capable of thinking in an originaive sense. Science calculates, but it does not think. Only poetic dwelling is capable of thinking in an originaive sense, and it alone has the power to liberate us from the technification of thought and praxis that has been ushered in by the natural fusion of science and technology.

Environing world is a concept that has its place exclusively in the spiritual sphere. That we live in our own particular environing world, to which all our concerns and efforts are directed, points to an event that takes place purely in the spiritual order. Our environing world is a spiritual structure in us and in our historical life. ¹⁵⁵ Here, then there is no reason for one who makes his theme the spirit as spirit to demand for it any but a purely spiritual explanation. And this has general validity; to look upon environing nature as in itself alien to spirit, and consequently to desire to support humanistic science with natural science and thus presumably to make the former exact, is nonsense.

Obviously, too, it is forgotten that natural science (like all science as such) is a title for spiritual activities, those of natural scientists in cooperation with each other; as such these activities belong, as do all spiritual occurrences, to the realm of what should be explained by means of a science of the spirit.

Blinded by naturalism (no matter how much they themselves may verably oppose it), the practitioners of humanistic science have completely neglected even to pose the problem of a universal and pure science of the spirit and to seek a theory of the essence of spirit as spirit, a theory that pursues what is unconditionally universal in the spiritual order with its own elements and its own laws. Yet this last should be done with a view to gaining thereby scientific explanations in an absolutely conclusive sense. The preceding reflections proper to a science of the spirit provide us with the right attitude for grasping and handling our theme of spiritual Europe as a problem belonging purely to science of the spirit, first of all from the point of view of spirit's history.

In an article entitled "Life and culture in the analysis of the relationship between man and nature" Angela Ales Bello.¹⁵⁶ says 'The dilemma of life or culture, which began first to enfold in philosophical speculation at the close of the nineteenth century, is both a false dilemma and a true one.

Looking back over the history of Western civilization, one realizes in what way this civilization was constructed and what image it has given of nature and of man. The sciences of nature and those of the spirit or to use a more recent term, the human sciences -- these latter making their mark from the positivist period, onward have claimed to be instruments of the "true" interpretation of the natural, psychic, social, and historical reality. The human sciences in particular, have not only modeled themselves on the natural sciences, but have also endeavoured to preserve a specificity of their own; the

reason for this ambiguity has to be sought in the contrasting trends toward a positive valuation of the methods of the natural sciences, considered to be exemplary, and toward the drawing of a distinction between the ambit of the psyche and that of physical existence. Toward the end of the last century, infact, this distinction became the banner of the antipositivist reaction that attempted to remove research on man from the ambit of science.¹⁵⁷

The extraordinary successes of natural knowledge are now to be extended to knowledge of the spirit. Reason had proved its power in nature. "As the sun is one all --- illuminating and warning sun, so too is reason one" (Descartes) ¹⁵⁸. The method of natural sciences must also embrace the mysteries of spirit. The spirit is real, ¹⁵⁹ and objectively in the world, founded as such in corporeality with this the interpretation of the world immediately takes on a predominantly dualistic i.e., psychophysical, form. The same causality only split in two embraces the one world; the sense of rational explanation is every where the same, but in such a way that all explanation of spirit, in the only way in which it can be universal, involves the physical. There can be no pure, self contained search for an explanation of the spiritual, no purely inner oriented psychology or theory of spirit beginning with the ego in psychical self -- experiences and extending to the other psyche.¹⁶⁰ The way that must be travelled is the external one, the path of physics and chemistry. All the fond talk of common spirit, of the common will of a people, of nations ideal political goals, and the like, and romanticism and mythology, derived from an analogous application of concepts that have a proper sense only in the individual personal sphere. Spiritual being is fragmentary. To the question regarding the source of all these difficulties the following answer is to be given : this objectivism or this psychophysical interpretation of the world, despite its seeming self -- evidence, is naive one -- sidedness that never was understood

to be such. To speak of the spirit as reality (Realitat), presumably a real (realen) annex of bodies and having its supposedly spatiotemporal being within nature, is an absurdity.

At this point, however, it is important for one problem of the crisis to show how it is that the "modern age", that has for centuries been so proud of its successes in theory and practice, has itself finally fallen into a growing dissatisfaction and must even look upon its own situation as distressful. Want has invaded all the sciences, most recently as a want of method.

In our time we everywhere meet the burning need for an understanding of spirit, while the unclarity of the methodological and factual connection between the natural sciences and the sciences of the spirit has become almost unbearable. Delthey, one of the greatest scientist of the spirit, has directed his whole vital energy to clarifying the connection between nature and spirit, to clarifying the role of psychophysical psychology, which he thinks is to be complemented by a new, descriptive and analytic psychology. Efforts by Windelband and Rickert have likewise, unfortunately, not brought the desired insight. Like everyone else, these men are still committed to objectivism. Worst of all are the new psychological reformers, who are of the opinion that the entire fault lies in the long dominant atomistic prejudice, that a new era has been introduced with wholistic psychology (Ganzheitspsychologie) There can, however, never be any improvement so long as an objectivism based on a naturalistic focusing on the environing world is not seen in all its naivete, until men recognize throughly the absurdity of the dualistic interpretation of the world, according to which nature and spirit are to be looked upon as realities (Realitaten) in the same sense. In all seriousness my opinion is this : there never has nor ever will be an objective science of spirit, an objective theory of

the soul, objective in the sense that it permits the attribution of an existence under the forms of spatio temporality to souls or to communities of persons.

The spirit and in fact only the spirit is a being in itself and for itself; it is autonomous and is capable of being handled in a genuinely rational, genuinely and thoroughly scientific way only in this autonomy.¹⁶¹ In regard to nature and scientific truth concerning it, however, the natural sciences give merely the appearance of having brought nature to a point for itself it is rationally known. For true nature in its proper scientific sense is a product of the spirit that investigates nature, and thus the science of nature presupposes the science of the spirit. The spirit is essentially qualified to exercise self-knowledge, and as scientific spirit to exercise scientific self-knowledge, and that over again. Only in the kind of pure knowledge proper to science of the spirit is the scientist unaffected by the objection that his accomplishment is self-concealing¹⁶² As a consequence, it is absurd for the sciences of the spirit to dispute with the sciences of nature for equal rights. To the extent that the former concede to the latter that their objectivity is an autonomy, they are themselves victims of objectivism. Moreover, in the way the sciences of the spirit are at present developed, with their manifold disciplines, they forfeit the ultimate, actual rationality which the spiritual Weltanschauung makes possible. Precisely this lack of genuine rationality on all sides is the source of what has become for man an unbearable unclarity regarding his own existence and his infinite tasks. These last are inseparably united in one task : Only if the spirit returns to itself from its naive exteriorization, clinging to itself and purely to itself, can it be adequate to itself.¹⁶³

Phenomenological analysis not only takes up once more the theme of "suspicion" a theme that is not new in the history of human thought and speculation, but even makes it the central theme. Indeed, epoche is precisely

this attitude and not that of some one who completely abandons himself to life ; it is neither ingenuous nor a critical, but it is rather the prudent and suspicious attitude of someone who desires to understand and not just to organize reality according to his own ideas. 164

The reading of nature and of man in a phenomenological key therefore responds to the need to comprehend reality by limiting the claims of the natural sciences and the sciences of man; it shows us how these sciences absolutize themselves how they can become instruments of alienation rather than of comprehension. One may note, in particular just how useful phenomenological analysis may be vis - a vis epistemology itself, which in its most recent elaborations seems to have arrived at an aporetic situation : it no longer succeeds in justifying a realistic vision of scientific knowledge and, if it admits that this latter be understood as a "construction", it is also compelled to accept its own failure. It is therefore essential to continue the inquiry already begun by Husserl in Crisis which was aimed at demonstrating the elaborative modalities of science as a work - part of a process of objectivization that can be valid, always provided that it does not put itself forward as an ultimate and definitive interpretation of reality.

Husserl was striving in an egological and monological manner for clarity in his own thought. He constructed the world - which he had bracketed -- rationally, from within. Nevertheless, Husserl and Dilthey were aiming at totality in a certain way and both were struggling for the authenticity of lived experience.

Husserl showed that Geisteswissenschaft is a science of concrete spirit, of concrete subjectivity which as such cannot be transcended. This concrete subjectivity has as its correlate the whole -- including the world of nature -- as cultural world. Its name is "philosophy" (See Hua, IX, suppl. V from 1926,

pp. 376. ff). From this absolute or universal Geisteswissenschaft which is finally called "universal Geisteswissenschaft as anthropology" or "universal anthropology" (Iluu, XV, opp. 480 ff. from 1932) we can separate the , so to speak, "naive" Geisteswissenschaften (in the plural). At the same time, the individual separate Geisteswissenschaften render service to the universal Geisteswissenschaft.

Even natural science turns out to be a phenomenon of the Geisteswissenschaften in so far as it is founded in lived experience and in intellectual activity. Basically, this had already been claimed by Dilthey (see GS, VII 82ff.) Dilthey's arguments for the methodological independence of the human sciences and his fight against the wrong application of the methods of the natural sciences within the domain of the human sciences gave rise to the wrong impression that he was devaluating the natural science and nature. Actually Dilthey's writings contain remarkable contributions concerning the problem of the structure and foundation of natural science, which deserve to be pursued further. Nature is seen as the foundation of phenomena in the spiritual sphere in Dilthey and in Husserl, although intellectual activities lead to the institution of the natural sciences and so are the first condition for the understanding and investigation of nature. Husserl sometimes formulates this more clearly than Dilthey and this presumably because he upholds a philosophy of constitution.

In this centennial celebration of Wilhelm Dilthey's first major philosophical work, Einführung in die Geisteswissenschaften (Introduction to the Human sciences), it is perhaps desirable to explore the multifaceted ways in which he has influenced the development of phenomenological philosophy. One area of his influence is discussed in the paper "Nature" in the Human -- scientific perspective : An Husserlian response to Dilthey by John E. Jalbert

(Sacred Heart University) ¹⁶⁵ is the role his thought plays in the philosophical program of Edmund Husserl. In selecting forth a philosophical position whose ultimate goal Husserl accepted but whose methods to achieve that goal Husserl could not accept. Dilthey served as a major motivating force behind much of Husserl's work in the area of phenomenological psychology.

For Husserl, the personal surrounding world (i.e the world given in the personalistic attitude) encompasses both nature and spirit and, thus, a human science that claims to provide the necessary foundation for the concrete human disciplines must render "nature" as well as spirit comprehensible. It is further submitted that, in Husserl's view, Dilthey failed to properly recognize and study the implication of the fact that "nature", purely as experienced, is a theme belonging within the purview of human science. Accordingly, in an effort to realize Dilthey's project, Husserl devotes considerable attention to sketching and elucidating some of the principle tenets of a phenomenology of the nature.

Part of Dilthey's strategy was to demonstrate that what counts as nature in modern science is in reality a product of the scientific method :

The intelligible world of atoms, ether and vibrations is only an intentional and highly artificial abstraction from what is given in lived and ordinary experience.¹⁶⁶

This view, expressed by Dilthey, anticipates one of the basic features of Husserl's interpretation of modern science as developed in his Crisis. Because Husserl agreed with the thrust and aim of Dilthey's thought in general and his psychology in particular, it became increasingly clear to Husserl that certain aspects in Dilthey's formulations would have to be clarified and developed more thoroughly and consistently. One such theme is "experiential nature".

Husserl probably has Dilthey as well as other human scientists in mind when he writes in an unpublished manuscript : Ordinary human science : it

does not have pre-given nature as a correlate of subjectivity as a theme. It presupposes material intuitive nature as existing and does not make subjective (of, "manner of givenness") constitution into a theme.¹⁶⁷

A clue that statements such as the one just cited should indeed be understood to include Dilthey is provided by a remark that Husserl writes in the margin of his personal copy of George Misch's study, Lebensphilosophie und Phanomenologie. In the section where Misch characterizes Dilthey's conception of the philosophical enterprise as one which seeks to elucidate in a satisfactory manner the phenomena of poetry religion and metaphysics, Husserl interestingly writes : But the whole world ? (?) not only of culture and the world of persons but also nature, thus it must give a satisfactory account of the universal phenomenon of existing world validity.

The world, says Husserl, is in the first place the world of values, practical objects like glasses, tables, the world of friends and strangers, the world of beauty, suffering, life and death, human communication, as well as of new experiences.¹⁶⁸ Here indeed, the sciences and their method are integrated within an endless and receding horizon. Husserl himself even called it the "promised land", seen by him from distance.¹⁶⁹ But in this passage from *Ideen* he pointed to his well - known program of a "rigorous science" as the "decisive step" toward the "transcendental subjectivity".¹⁷⁰

Husserl's aim is not to demonstrate the independence of the human from the natural sciences but also to halt the ever increasing alienation of natural science from life. Not only culture, but nature too, had become incomprehensible. Yet, despite this fact, natural science was able to proceed with its program and to even advance its control over nature. But the price paid for this success was that natural science had increasingly less to say to human beings and the only way that this situation could be turned around was

to take a fresh look at "experiential nature" and to proceed on the basis of the results of this investigation to reinterpret the natural scientific conception of nature. If Husserl appears to be moving in a direction similar to that pointed to by Dilthey at the end of the Einleitung, we should not perhaps be altogether surprised for if it is true that Dilthey was the first to make Husserl aware of the great relevance of phenomenology for the problems besetting the human sciences, then it is probably also true that Dilthey awakened Husserl to the urgent need for a genuine "understanding" of nature.¹⁷¹

In the 1880's, before Husserl read any of his work or he Husserl's, Dilthey distinguished between inner and outer experience as two sides of the same generic, integral experience, but viewed from different perspectives. There is only one experience, he wrote, which is applied in a double direction.¹⁷² The twofold elaboration of lived experience gives rise, on the one hand, to the human sciences, which remain close to the concrete standpoint of life, and, on the other, to the natural sciences, where in understanding is mediated by hypothesis.

Dilthey, from the perspective of the human sciences, emphasized differences between the way facts are given in the human sciences and the way facts are given in the natural sciences, in order to urge the development of a descriptive and analytic method in psychology as opposed to the constructive and hypothetical method developed in the natural sciences.

The particular character of each individual science is to be determined according to the way in which the objects of that science are given to experience. Accordingly, Dilthey presents a point by point contrast between the way the objects of the natural sciences are given and the way in which psychic life is given, as a basis for insisting upon a distinctive method in psychology : the facts which form the objects of the natural sciences are given

in consciousness as coming from without, as phenomena, and as isolated, whereas the facts which form the objects of the natural sciences are given in consciousness as coming from without, as phenomena, and as isolated, whereas the facts which form the objects of the human sciences are given from within, as reality, and as an active nexus. Consequently, the natural sciences must supply a nexus to nature inferentially, hypothetically; but no such procedure is required for the human sciences, since the nexus of psychic life is originally given as their foundation (GS, V. 143).

Heidegger in 1925 credited Dilthey as "the first to understand the aims of phenomenology" Like the neokantians, Husserl denounced the confusion of fact and idea (the reduction of idea to fact just revenges itself by leading to the "Superstition of the fact") and went on to announce "Science is a little standing for absolute, time less values". 173

The recent volumes of Nachlass material have made it clear that for Dilthey inner experience of mental life is not subjective or "merely" subjective. (How it came to be so regarded as this "merely" is one of the great motifs of Dilthey's own intellectual history, just as it is Husserl's later thought.) From the start Dilthey's inner experience is, to borrow Brentano's terms, intentional and evidential. It is experience of life, the "otherness" of life, and other life, not of a self - contained, anaclastic self back on itself, nor a stream of Humean sensations. We can have "repeated" experience" of..... "only if experience has structured content. Inner experience can be reflected upon because it is not reflexive; as evidence, it is referential, not self - referential. This "aboutness" and "givenness" of inner experience is ultimately directed to life. Life, too, has its valences : Life is both something private and almost ineffiably personal but also something public, social, and cultural. Life is more primordial than the distinctions subjective/objective, phenomenal/real, and

inner/outer. What is analytically separable is realiter connected. On the one hand Dilthey seems to draw a veil over the deepest features of life, at least considered as an imponderable "whole" :

The expression "Life" conveys to everyone what is most familiar and most intimate and yet what is darkest, even unfathomable. What life is, is in an insoluble riddle. All musing serious inquiry, and thought arises from this unfathomable thing. All knowledge is rooted in this never fully cognizable thing. (GS, XIX, 346).

Any notion such as "total objectivity"-- or total subjectivity, for that matter -- in the human world is a pipe -- dream, a contradiction in terms (like absolute knowledge), which flies in the face of the delimitation and "horizon" which is constitutive of objectivity in the first place. The absolute demand can only lead to absolute disappointment, like Kant's bird which imagines it could fly more easily without the air to impede it. There is only provisional, selective objectivity -- even with regard to inner experience, permeated and inflicted as it is with objective mind. There is only relative or "correlative" objectivity, in the human sciences : but relative in a peculiar double sense which, to my mind, very much blunts the charge of relativism : (1) relative to the structures of experience within the various coherences of life ; (2) relative to a concrete subjectivity engaged in expanding its horizon -- structure. Such correlative objectivity is "partial" by comparison to some putative "whole truth" (without limitation and selection); however, Dilthey's more critical and modest "partial" objectivity can be "impartial" within its own frame of reference.

This brings us to the question of world views and Weltanschauungslehre, which was Husserl's main avenue of access to Dilthey's thought. It is alleged that the doctrine of world -- views makes Dilthey's relativism truly "radical". Dilthey did not invent the notion of world -- view anymore than he could be

said to have invented "life"; what he did do was to project a science of "doctrine" of world-views which could explicate them out of their ordinary and thoughtless familiarity and "massive matter of -- courseness" into reflective recognition. Dilthey was not trying to contrive another Weltanschauung but rather a historical -- systematic discipline which would interpret, compare, and excavate them from their "ground" in lived experience and life - values. "The deepest root of a world -- view is life". Dilthey says (GS, VIII, 8), and, like life, it structure, regularity and patterned coherence. Science too, has roots in the ground of life, but Dilthey was far from saying that grounds, roots, trunks, branches, and fruits are all the same thing. Dilthey saw different valencies for sciences considered as a cultural phenomenon and for science considered as valid systematic theory and knowledge. To Husserl he wrote that there is crucial difference between the historical life forms such as world -- views, constitutions, religions on the one hand and the sciences on the other. "Such forms have a special relation to life, one that is different from that of the objectively valid sciences". 174

By the time (around 1880) Dilthey came across the physiologist's concept of structural differentiation he had made little or no use at all of the word "structure". His basic anthropological and psychological concepts, however, were such that the term "structure" seemed merely replaced by some German synonyms, such as "Geifuge" or "Ghederung". His preparatory work for his chef - d' oeuvre, the Einleitung in die Geisteswissenschaften (Introduction to the Human sciences) (1883) show how close he had come by that time to the approach which some years later is clearly characterized by the use of 'structural' analysis and description. Whereas the Einleitung as Dilthey published it in 1883 did not contain many of these ideas, the earlier parts

written down during his years in Breslau and therefore called "Breslau Drafts" (GS, XIX, 58 ff.) -- show how the concept of "structure" was incorporated.

Especially chapter 6 of the Breslay Drafts can serve as an illustration. The title, "Die Gliederung der Tatsachen des Bewusstseins (the Articulation of the facts of consciousness) indicates that Dilthey here draws some consequences from what he called the second Basic principle of philosophy. The first had been : everything given to me in outer and inner experience is only there -for-me as a nexus of facts of my consciousness Dilthey would call thus the principle of phenomenality, indicating that the problem of reality can only be solved by starting with the anlysis of what is given to me in my consciousness. But if this principle were the only guideline for epistemology it would lead to a radical phenomenalism by which reality is reduced to mere appearance from a purely cognitive subjects in whose Veins "flows no real blood" (GS, I, XVIII). This lack of real blood in the cognitive subject had compelled schopenhauer, representative of such a radical phenomenalism, to find his way out of the world as mere representation -- back to metaphysics. Dilthey in a conscious effort to overcome this schopenhauerian paradox, tried to counter balance the principle of phenomenality by a second principle : The facts of consciousness cannot be reduced to a sphere of images, as it were, for a merely on looking subject, detached from concrete relations with the outer world. Facts of consciousness are also -- and above all the experiences of pain, pleasure joy, hope, fear, satisfaction etc., starting with the most elementary experience of resistance exercised by an outer world, against the movements of my body. Here lived experience (Erlebnis) is brought in as the basic epistemological category, set against the concept of representation (Vorstellung). Thus the second Basic principle holds that the facts of consciousness are given in the "totality of psychic life" (GS, XIX, 75) and that

a merely epistemological grounding of the human sciences has to be replaced by a more comprehensive psychological and anthropological self-reflection (selbstbesinnung) this would be the task of a purely descriptive psychology which on the basis of an analysis of lived experience in its entirety would, at the same time, have to bring in all the anthropological findings which the history of language, mythology, religion and poetry can provide. It is of no great importance whether we call this kind of self-reflection "philosophy of life", "Erkenntnisanthropologie" (as K.O. Apel would call it), "philosophical anthropology" or "phenomenology" as long as long as we make sure that it is not psychology in the narrow sense of "psychologism" (implying a nomothetical and reductionist quest for psychic laws).

The interplay of cognitive, emotive, and volitive processes might be called that "real blood" Dilthey found missing in the veins of the merely cognitive subject as both empiricist and rationalist epistemology had constructed it. It is "life itself".

Whenever we find the words "this is life itself" in Dilthey's writings we find them connected with the idea that the interaction between self and milieu means in the first place the interplay of impression and movement (or stimulus and response). Before adopting the term "Structure" Dilthey occasionally spoke of the "anthropological schema" which meant the interconnectedness of "feeling--sensation --impulse transformation into movement -- satisfaction, etc" (GS. XVIII, 234, 183f.) Or he would describe this interaction as a circular process ("Kreislauf der psychischen Tätigkeit," "Kreislauf der Lebensfunktionen" etc). (GS. XVIII, 182f; XIX, 415). Such expressions show the importance of connecting impression (stimulus) and movement (response) by feeling as an intermediary. In this connection, when trying to find his way from anthropology to history, he uses the word "Struktur -- Differenzierung (GS,

XVIII, 160), probably for the first time. The direct influence of Spencer) Ribot is visible in his notes on these authors. The term "structure" is still used in a tentative way there. Whatever the further development of this concept may have been, it is not until about 1885 that "structure" becomes a definite term. In his lectures on psychology in 1885/86 the term "inner structure of the soul" is used to alter an earlier version of the same passage. The lecture on "Dichterische Einbildungskraft und Wahnsinn (Poetical Imagination and Insanity)" of 1886 (GS, VI, 90ff.), and above all the Poetics of 1887 introduce the new concept at great length. I quote from the latter essay :

There is a structure of psychic life which is as clearly recognizable as that of the physical body. Life always consists in the interaction of a living body and an external world which constitutes its milieu. Sensation, perceptions, and thoughts constantly originate from the play of external stimuli. Changes in our affective state on the basis of a general feeling are also aroused. The feelings then evoke volitions and the strivings of desire and will. Volitions result in external actions of the will and among them the most powerful are those that are permanently embedded in bodily states such as the impulse for self - preservation the need for nourishment, the impulse to propagate, and the love of offspring. Almost as powerful are the need for esteem and the social instincts which are embedded in the will ether volitions produce inner changes in consciousness. The hierarchy of the animal Kingdom is based on this structure. We see the most simple, bare form of life where a stimulus in which feelings are sensation are undifferentiated, produces a movement in an animal. 175

In the lecture of 1886 this passage is concluded by the words : "This constant interaction between the self and the milieu in which we breathe, suffer and act : this is our life" (GSV, 95). In various contexts, such as

educational theory (GS, V, 95; GS, IX, 185), ethics (GS, X, 48), epistemology (GS, V, 95), theory of world -- views (GS, VIII, 16), even in the essay in literary archives (GS, IV, 559) not to mention, of course, the "Ideas concerning a Descriptive and Analytic psychology" of 1894 (GS, V, 212) -- the same idea is repeated again and again. That this concept does not belong merely to a "psychologistic" phase which was overcome by the "hermeneutical" approach of the later writings is shown by the fact that the essay of 1907, "The Essence of Philosophy", almost literally repeats earlier passages. Here again Dilthey sums up with words : "This is human life" (GS.V. 373).

Husserl and Descartes

The phenomenological method forbids all prejudgements and dogmas. Its ideal is the elaboration of a descriptive philosophy by means of a radical method. Proceeding with the greatest possible freedom from presuppositions. It is a scientific tendency in philosophy, and its constructive program gives great promise of positive results.

The phenomenological attitude involves a "reduction" to pure consciousness, really carrying out the attempt made by Descartes (who, to be sure had a very fragmentary idea of the goal envisaged by phenomenology). The world and I as a body and empirical subject are "put out of play" eliminated (*ausgeschaltet*) and bracketed (*eingeklammert*). The pure sphere of transcendental subjectivity can only be attained by means of the phenomenological attitude, which requires the performance of an "epoche". The stream of my cogitations is immediately and apodictically given ; and the world is there as a cogitatum, or as the corresponding object of experience. The objects of experience are then not limited to the factual world, but include all possible objects (as *cogitata*), such as ideal objects, so called impossible objects, etc. That is the gain, since this attitude is then directly useful for epistemology, logic, and metaphysics.

The phenomenological "suspension" is an entirely peculiar operation. It does not mean that a thesis is abandoned which was laid down, or that a conviction has been altered. The thesis in question is as it were "placed out of action", "eliminated", "bracketed". It remains in this bracketed form; it is still an experience, but we "make no use of it". This peculiar epoche can be examined with regard to every thesis; it involves a certain abstention from judgement, which is compatible with a unshaken conviction of truth. The judgement becomes a "bracketed judgment". In the case of phantasied objects

one eliminates the judgement or assumption. "I think it as being such and such". Instead of the universal doubt of Descartes, then, Husserl proposes this universal "epoche". A new scientific domain is thus determined. All the sciences which refer to the natural world are also eliminated : no use is made of their propositions and results. They may only be "assumed" in brackets, and not as propositions presuming validity. That remains when the entire world is eliminated (including us with all "cogitare") is "pure" or "transcendental" consciousness. That is the phenomenological residuum.

Beginning with a generous expression of indebtedness to Descartes, Husserl portrays phenomenology as the historical completion of the subjective movement inaugurated by Descartes' Meditations. The central idea of Descartes, judged from Husserl's point of view, was the return to the self, or to the stream of experiences, by means of the method of doubt. The reform of the sciences and the establishment of their essential unity on a philosophical basis are themes which are prominent in both thinkers. That Husserl sees more in Descartes in some respects than is warranted is due to his own interest in exploiting the method of doubt for purposes of transcendental phenomenology that explains his painstaking elaboration of Descartes "beginning". That which has historical significance for Descartes as a reaction against a tradition harboring obscurity, dogma, and authoritarianism is appropriated by Husserl as an essential part of the technique for developing a philosophy out of pure consciousness.

Voicing his discontent with the state of Philosophy, Husserl proposes to begin with Descartes' starting-point, the pure ego cogito, and to lead the way from there to transcendental phenomenology, which is submitted as the proper basis for unity in philosophy. Like Descartes, Husserl holds that the evidence of the existence of the world is not apodictic, for it is capable of being doubted

without contradiction. The ego cogito indicates the province of transcendental subjectivity, which is the domain of certain and first-being. But Descartes failed to make any philosophical capital out of his discovery of certainty. This error is rectified by Husserl, who proceeds to sketch the field of transcendental experience and its general structures. The inducible data of self-consciousness form a stream of experiences, which may be regarded from the side of the act of experience (the cogito), or as its correlated, that which is thought (the cogitatum). The already well-known distinction between natural reflection and transcendental reflection, the "intentional nature of experience and its basic characteristics, such as identification and the element of time, indicate leading stages of the investigation.

In the of "radicalism" of understanding, the phenomenological method require a "reduction" to individual consciousness first of all; and it must then face the problem of establishing the reality of other subjects. The method may be said to be "radical" in the sense that all possible beliefs are suspended, and only the most certain data are admitted as a beginning. In carrying out the method, the world and all human beings except myself are "bracketed". But this first reduction must be carried a step further, in conformity to the ideal of the method. If I as an individual ego "eliminates" other human beings, I must also suspend all judgements based upon them or involving them. The phenomenological residuum becomes correspondingly narrower. What does it comprise? This is answered by a more precise application of the phenomenological method. With the natural attitude I find myself in the world, along with other human beings. If I abstract from the others, I am "alone" that which is peculiar to my ego is my concrete being as a "monad". For the purposes of method it is important to begin by extruding from the field of investigation not only the reality of others for me, but all modes of

consciousness referring to what is strange to me, i.e. everything referring to "Others", such as predicates expressing cultural values.

Thus Husserl attempts to achieve the determination of a completely individual sphere of consciousness proceeding with what is given in intuitive experience.

Having eliminated all strange elements, there remains "the phenomenon of the world", as the transcendental correlate of the experience of the world. The sphere which comprises my own world represents the extreme limit which is attainable by phenomenological reduction. This is "first", and it must be attained order to constitute the experience of "an other ego distinct from me"; and without having the latter idea I am not able to have the experience of an "objective world". But I do not need the experience of an objective world or of another ego in order to have "my own world".

Husserl's point of view shows the Kantian influence. He is concerned with pointing out the necessary presuppositions or conditions of an ordered process of experience, including social experience.

The cartesian Meditations is fittingly concluded with an expression of reverence toward the subjective tradition. Stating that positive science is a science of being which is lost in the world, Husserl adds that it is necessary first to loose the world by the method of reduction in order to find it later in the field of universal self - consciousness. The words of saint Augustine, to the effect that truth is to be founded in the self, express the dominant idea of the Meditations. It follows then either that objective or "outer" truth is inaccessible, in which case we are committed to agnosticism; or that an absolute consciousness (whatever that may be, as one may observe with the natural attitude) conditions and constitutes reality itself, and not only our

meaningful experience of reality. It is the latter alternative which is accepted by transcendental phenomenology as an idealistic philosophy.

It is not a question of choosing either the phenomenological method or the natural view of the world. The method has its usefulness in the theory of knowledge or in descriptive psychology, as well as in general philosophy, and it thus supplements our knowledge. In a systematic, analytic sense it may be said to provide the foundation of all ordered knowledge. Its clarification of basic concepts and structures extends to all fields of knowledge including the social sciences. 176

References

1. Cf. E. Fink "Was will die Phanomenologie Edmund Husserl's" *Die Tatwelt* (1934), p. 15.
2. Cf. Paul Natorp, review of Lipps " *Grund thatsachen des seelenlebens* (Bonn, 1883), in the *Göttingische gelehrte Anzeigen*, Vol IX (1885) pp. 190 - 232.
3. P. Natorp, "Über Objektive und Subjektive Begründung der Erkenntnis" (Erster Aufsatz), *Philosophische Monatshefte*, Vol XXIII (1887), pp. 257 - 286. Husserl refers to pp. 265 f. of this paper in the *Logical Investigations*, for a supplement to his discussion of psychologism.
4. Cf. P. Natorp, "Quantität und Qualität in Begriff, Urteil, und gegenständlicher Erkenntnis", *Phil. Monatshefte*, vol XXVII (1891), pp. 1-32, 129-160. In his *Einleitung in die Psychologie nach Kritischer Methode* (Freiburg i. B, 1888), Natorp set himself the task of making secure the basis of psychology by a preliminary investigation of its object and method.

5. Cf. Husserl's "Erinnerungen an Franz Brentano", Supplement II, pp. 153 - 167, in Oskar Kraus's *Franz Brentano, Zur Kenntnis Seines Lebens und Seiner Lehre* (Munich, 1919).
6. *Brentanos Gesammelte philosophische Schriften*, ed. by O. Kraus and A. Kastil (Leipzig, 1922 - 1930), 10 volumes.
7. Linda L. McAlister *The Philosophy of Brentano* published in 1976 by Gerald Duckworth & Co. Ltd. London p. 102.
8. *Ibid*, p. 103.
9. *Ibid*, p. 103.
10. G. E. Moore's review of Brentano's *On the Origin of Our Knowledge of Right and Wrong*, p. 4. in the *International Journal of Ethics*. (1903).
11. *Logical Investigations*, trans. J. N. Findlay (London and New York, 1970), p. 109.
12. *Logical Investigations*, vol. 1, pp 352 -3.
13. Martin Heidegger, *Being and Time*, trans. John Macquarrie and Edward Robinson (London 1962), p. 490.
14. Cf. Herbert Spiegelberg, "Der Begriff der Intentionalität in der scholastik, bei Brentano and bei Husserl", *Philosophische Hefte*, vol. V. (Prag - Dejvice, 1936), pp. 75 - 91.
15. Cf. Brentano, *Psychologie Vom empirischen standpunkt*, Vol. I (Leipzig, 1924), pp. 124f., 137.
16. *Ibid*, vol. II (Leipzig, 1925), p. 8.
17. *Ibid*, vol, I, p. 269, note by kraus.
18. *Ibid*, p. 120. Cf. Husserl, *Logische Untersuchungen*, Vol. II, part 2, p. 243; and also chs. XII, B and XV; Dherein.
19. Brentano, L. C., p. 104.
20. *Ibid.*, vol. II, p. 133; also vol. I, p. 269.

21. Quentin Lauer Edmund Husserl, Phenomenology and the crisis of Philosophy Harper & Row Publishers, New York p. 190.
22. See Edmund Husserl, 'Author's Preface to the English Edition, Ideas- General Introduction to Pure Phenomenology (London 1931) p. 23.
23. Linda L. McAlister The philosophy of Brentano published in 1976 by Gerald Duckworth & Co. Ltd. London p. 92.
24. Ibid, p. 92.
25. Ibid, p. 92
26. Ibid, p. 93
27. Ibid, p. 93
28. Ibid, p. 94
29. Ibid, p. 98
30. Ibid, p. 100
31. Edmund Husserl, Ideas, A General Introduction to Pure Phenomenology trans. W. R. BOyce Gibson London. George Allen & Unwin 1931). 42. (hereafter cited as Ideas).
32. In the next chapter Merleau - Ponty points out that the balance is not one sided : " Most of the time phenomenologists have not understood what might be basically convergent with their own inspiration in contemporary psychology" (p. 49).
33. Schutz, Collected Papers, III, 45.
34. Cf. Eugen Fink, "Die Phanomenologische Philosophie Edmund Husserls in der Gegenwärtigen Kritik", with a preface by a Edmund Husserl, Kantstudien (Berlin, 1933), pp. 319 - 383. Husserl states that he agrees with every statement in the essay. Dr. Fink was his private assistant at the time.

35. Ideas, Section 34, p. 114 - translation modified see Ideen I, p. 74. This psychological investigation extends from section 34 through at least section 46 and perhaps through section 49.
36. Ibid, Section 33, pp. 112 - 13. The wider investigation extends from section 33 through section 55.
37. Ibid, "Introduction", pp. 41 - 47
38. Ibid, Section 32, p. 110.
39. Cartesian Meditations : An Introduction to Phenomenology, trans. Dorion Cairns (The Hague: Martinus Nijhoff, 1960). p. 18 (hereafter cited as CM).
40. Ideas, Section 50, pp. 154 - 55.
41. Cf. Husserl's reply to Palagyi, .
42. The term "discard" as used by W. Koehler in his The Place of Value in a World of facts is also unfortunate, for the " convictions about existence" are simply " Suspended", and continue to be of interest phenomenologically.
43. The present conception of phenomenology in its relationship to other methods may also serve to indicate the direction of a reply to the interesting line of argument of V. J. McGill ("A Materialist's Approach to Husserl's Philosophy") and Charles Hartshorne ("Husserl's and the social structure of Immediacy") in Philosophical Essays in Memory of Edmund Husserl. Other in the same volume, not mentioned thus far but pertinent for the present subject, include the following : Herbert Spiegelberg, " The 'Reality phenomenon' and Reality", Helmut Kuhn, "The Phenomenological Concept of 'Horizon'", Jacob Klein, "Phenomenology and the History of Science" Fritz Kaufmann, "Art and Phenomenology", Louis O. Kattsoff "The Relation of Science and Philosophy in the light of Husserl's thought".

Of interest also are the essays by William E Hocking ("Outline - Scketch of a System of Metaphysics") Gerhart Husserl ("Men and the Law"), and Hermann Weyl ("The Ghost of Modality").

44. Ideas Section 33, p. 112. See Section 16, p. 77 for the definition of "region".
45. Ibid., Section 16, pp. 77 - 78.
46. Ibid., Section 8, pp. 63 - 69.
47. Ibid., Section 17, p. 79.
48. See Ludwig Landgrebe, "Seinesregionen und regionable ontologien in Husserls Phanomenologie", in his Der Weg Der Phanomenologie (Gutersloh: Gerd Mohn, 1963) for a discussion of Husserl's treatment of the relationship between these two regions of being.
49. Ideas, Sections 62, p. 183.
50. Ibid, p. 182.
51. Ibid, p. 183
52. Ibid, Sections 146 - 53, pp. 404 - 27.
53. Husserl's the Idea of Phenomenology, trans. William Alston and George Nakhnikian The Hague : Martinus Nijhoff, 1964. For Husserl's testimony in this regard, see IP, pp VII - VIII, Or Husserl, "Personliche Aufzeichnungen", p. 297.
54. Ideas, "Introduction ", p. 45. Here Husserl says that the second book of Ideas will explain the relation of phenomenology to the other sciences. On this, see the editor's introduction to Edmund Husserl, Ideen, Zu einer reinen Phanomenologie und phanomenologischen Philosophie, Second book.

55. A "positive" Science is a science that presupposes the world (crises, p. 261). This seems to be the same as what Husserl calls a "dogmatic" (Versus a "Critical") Science in Ideas, Section 26.
56. Strasser's Comment, in his introduction to the Husserliana edition of cartesian Meditations, that the "Way" to phenomenology represented by that work is not through logic, can be misleading, as can be the whole discussion of "ways" into transcendental phenomenology. Once one sees Husserl's "introductions" to transcendental phenomenology in their systematic relatedness, as I am attempting to do here, One sees that they all pertain to logic; in the all-encompassing sense in which Husserl understood it, i.e as the theory of science. There are indeed differences between these "introductions", and these differences no doubt have to do with different "ways". But exactly what these differences are cannot be seen until the common themes are separated out. In so far as "way" refers to "motivating problem" there are no differences between the "introductions". See Edmond Husserl, *Cartesianische Meditationen und Pariser Vorträge*, *Husserliana* I, 2nd ed., ed. S. Strasser (The Hague : Martinus Nijhoff, 1963), p. XX III.
57. CM, pp. 152 - 53. See also the work referred to by Husserl as an "introduction" is *Formal Transcendental Logic*, trans. Dorion Cairns (The Hague : Martinus Nijhoff, 1969) pp. 13, 226. (hereafter cited as FTL).
58. FTL, pp. 223 - 31.
59. CM, pp. 151 - 57.
60. "Philosophy as Rigorous Science " reveals how strong was Hume's influence on Husserl. For the former, whatever could be thought of as not being, could not - be, since, its not - being involved no contradiction. Husserl, therefore, will accept as an object of Philosophical thought only

what cannot be, and this is essence. Cf. Gaston Berger, "Husserl et Hume", *Revue internationale de Philosophie*, I (1938 - 39), 342 - 53.

61. CM, p. 153.

62. FTL, pp. 1-4, 26 - 29.

63. Ibid, p. 5.

64. This theme is taken up again in crisis and was already present in the 1911 work "Phenomenology as Rigorous Science" (in Edmund Husserl, Phenomenology and the crisis of Philosophy, trans. Quentin Iauer (New York : Harper & Row, 1965).

65. FTL, p. 16.

66. Edmund Husserl, *Ideen Zu einer reinen Phänomenologie und phänomenologischen Philosophie*, third book, *Husserliana*, V, ed. Marly Biemel (The Hague : Martinus Nijhoff, 1971). p. 25. See also Aron Gurwitsch, *The Field of Consciousness* (Pittsburgh : Duguesine University Press, 1964), p. 190.

67. FTL p. 29.

68. Precisely because the objective is ideal and not empirical can it be stable amid factual diversity.

69. Like Descartes, Husserl finds the very existence of opposed philosophies disturbing.

70. Here a new characteristic of the scientific ideal in philosophy is introduced. Not only must it produce objectively valid results, but like the positive sciences it must create a community of philosophers who, basing their investigations on the same principles, can share a community of scientific truths that accumulate as scientific investigation advances.

71. Husserl will not have us think that the attitude of the philosopher is one of indifference to life's problems - truth for its own sake. The philosopher is

- to "understand " for the true needs of life that which "Science" presents in a manner adequate to its own needs. It is not the scientist, as scientist, but the philosopher who sets in judgement on the results of science.
72. Immanuel Kant, Lectures on Logic in collected works VIII, Berlin Academy Press, 1931, p 15.
 73. Martin Heidegger, Kant and the Problem of Metaphysics, translated by James S. Churchill, Indiana University Press, Indiana, 1975.
 74. Edmund Husserl, The Crisis of the European Sciences and Transcendental Phenomenology, translated by David Carr, North Western University Press, Evanston, 1970, p. 7.
 75. Ideas, Section 27, p. 101 - translation by William R. Mckenn, See Ideen I, p. 57. This section is entitled "The world of the Natural Attitude : I and my surrounding world".
 76. Ibid, Section 30, p. 105.
 77. Concerning " awake" , see Ibid : Section 27, last paragraph, p. 103 and Husserl's emendation to the text he published which is included in Biemel's edition of Ideen I, p. 63, lines 6 and 8. See also Deilage VII in that edition.
 78. One must consult the German text of Sections 27 - 30 to see the consistency with which the word "Vochanden" is used, for it is rendered in many ways in the English translation.
 79. Ideas, Section 29, p. 105.
 80. Ibid, Section 31, p. 107, See Ideen I, p. 64.
 81. Ibid, Section 30. pp. 105 - 6.
 82. Ibid, p. 106 - translation modified, see Ideen I, p. 63.
 83. Ibid, Section 31, p. 107.
 84. See Ibid, Section 50, p. 154, Second paragraph and Section 1, p. 51 first paragraph. Husserl indicated an emendation to the former paragraph

which is included in Biemel's Husserliana edition (p. 110). There instead of "natürlichen theoretischen Einstellung", the text reads "natürlichen erfahrenden und theoretischen Einstellung".

85. Ibid, Section 50, p. 155.
86. Edmund Husserl, Ideas : General Introduction to Pure Phenomenology, trans. W. K. Boyce Gibson\ (New York : Macmillan, 1931), p. 28.
87. Kenneth E. Bouldeng, The Image : Knowledge in Life and Society (Ann Arbor : University of Michigan Press, 1961), p. 3.
88. Alfred Schutz, Reflections on the Problem of Relevance, edited annotated, and with an introduction by Richard M. Zaner (New Haven : Yale University Press, 1970), p. 1.
89. First published in 1939 in Belgrade in volume I of the Journal Philosophia, this work has now been published as volume VI in the Husserliana series, Die Krisis der europäischen Wissenschaften und die transzendente Phänomenologie : Eine Einleitung in die phänomenologische Philosophie, ed Walter Biemel, 2nd ed. (The Hague: Martinus Nijhoff, 1962). English translation by David carr, the Crisis of European Sciences and transcendental phenomenological philosophy (Evanston, Ill : North - Western University Press, 1970).
90. We have set forth the naturalistic conception of man as it prevails especially in the contemporary psychological and social sciences in our article "On contemporary Nihilism", Review of Politics, VII (1945).
91. Husserl argues exclusively on the theoretical level, since he had not yet the opportunity to appreciate the crisis of Western science under the politico-practical aspect with which we have become acquainted during the last decade. This aspect has been brought to the fore by E. Voegelin in his

- most illuminating article "On the Origins of Scientism", *Social Research*, and V (pg. 48).
92. Husserl's description of the crisis of Western science is reminiscent of that which Max Weber had given about 20 years before. Cf. "Wissenschaft als Beruf", in Gesammelte Aufsätze Zur Wissenschaftslehre (1922), pp. 537 ff. There is, however, a significant difference whereas Weber is prepared to resign himself to the given state of affairs. Husserl holds out the prospect of a regeneration of Western man under the very idea of philosophy, into the unity of which the sciences have to be re integrated.
93. Husserl's late Orientation towards and his conception, of history and historicity have been analyzed in an excellent and highly instructive article by P. Ricoeur, "Husserl et le sens de L histoire", *Revue de Meta Physique et de Morale*, LIV (1949).
94. Aron Gurwitsch, *Studies in Phenomenology and Psychology* (Evanston, Ill : Northwestern University Press, 1966), p. 400.
95. Husserl Speaks of "Europe" and "European man" but notes explicitly that these terms are not meant to be understood in a geographical sense. We may therefore safely replace his terms by the wider ones of "West " and "Western man".
96. As to "natural attitude", see E. Husserl, Ideen Zu einer reinen phänomenologie und phänomenologischen Philosophie (referred to hereafter as *Ideen*), 27 f (All our references to *Ideen* are to the 2nd edition: 1922, which is a reprint of the 1st edition, 1913. The Louvain edition, ed. W. Biemel (*Husserliana*, Vol. III editions). Cf. also M. Farber, The Foundation of Phenomenology (Cambridge, Mass, 1943), pp. 522 ff.
97. The privilege and priority of consciousness in the sense under discussion was formulated for the first time by Descartes in his meditations.

Summarizing his analysis of perception, Descartes writes (Philosophical Writings, selected and translated by N.K. Smith (New York, 1958, 1911), pp. 190 ff) : "What now shall I say of the mind itself, i.e, of myself ? what am I to say in regard to this I which seems to apprehend this piece of wax so distinctly? Do I not know myself much more truly and much more certainly, and also much more distinctly and evidently, than I do the wax? For if I judge that the wax is or exists because I see it, evidently it follows, with yet greater evidence that I myself am or exist, in as much as I am thus seeing it..... If the apprehension of the wax has seemed to me more determinate and distinct when sight and touch, and many causes besides, have rendered it manifest to me, how much more evidently and distinctly must I now know myself, since all the reasons which can and in the apprehension of the wax, or of any body whatsoever, afford yet better evidence of the nature of my mind".

98. Cf. Husserl, *Ideen*, 47ff.; 142; E. Husserl, Formale und transzendente Logik (Halle, 1929), 61, 94 f, 104; Husserl, cartesian Meditations, 7f. and pp. 47 f.
99. Both published in the Husserliana series respectively, as vol. III and vol I (The Hague, 1950). The Cartesian Meditations have been translated by D. Cairns (The Hague, 1960).
100. For a comparatively detailed study of Husserl's notion of horizontal consciousness, cf. H. Kuhn, "The Phenomenological concept of 'Horizon'" in Philosophical Essays in Memory of Edmund Husserl, ed. M. Farber (Cambridge, Mass, 1941). The connection between horizontal consciousness and the awareness of the world has been brought out by L. Landgrebe, "The world as a Phenomenological Problem", *Philosophy and Phenomenological Research* - I (1940).

101. Cf. Brentano, *über die Zukunft der Philosophie* ed. by O. Kraus (Leipzig, 1929), p. 317. This is one of the twenty-five "habilitation" these added to this volume.
102. Cf. O.F. Bollnow's review of Brentano's *Gesammelte Philosophische Schriften*, *Gett. gel. Ans.*; vol. LU11 (1933); pp. 393 ff.
103. Ueberweg - Geyer, *Geschichte der Philosophie*, vol. 2, 11th ed. (1928), p. 343.
104. Another relevant expression besides *Ma'na* is *Maosad* especially in combination such as *Osas Tani* (i.e. *secunda intentio*) (Averroes, *compendio de Metafisica*, Madrid, 1919, p. 800) and *maqсад al-kalam* (aim of speech); I am (Herbert Spiegelberg) indebted for the reference to the late Max Mayerhof in Cairo.
105. Edmund Husserl, *Phänomenologische Psychologie*, *Husserliana IX*, ed. Walter Biemel (The Hague : Martinus Nijhoff, 1962), pp. 55-56, 93...
106. Mac Intyre and Smith, *Husserl and Intentionality*, D. Reidel Publishing Co., Boston, 1982, pp. 119-25.
107. *Ibid*; pp. 176-79.
108. G. Berger, *Le Cogito dans la philosophie de Husserl* (Paris, 1941), p. 54.
109. Edmund Husserl, *Ideas : A general Introduction to pure Phenomenology*, trans. W.R. Boyce Gibson (London: George Allen & Unwin, 1931), section 129, p. 361. (hereafter cited as *Ideas*).
110. *Ibid*; Section 90, p. 62.
111. *Ibid*, Section 129, p. 363.
112. *Ibid*; Section 131, p. 267.
113. *Ibid*; Section 131, pp. 365-66. As analytic concepts, the "pure X" mentioned here is not the same as the "empty X" mentioned above as the substrate of purely mathematical predicates (above, p. 52). Husserl is

referring here to perceived objects and perceived predicates. In terms of the intentionality of scientific thought, however Husserl's analysis finds them to have the same referent --- see *Ideas*, Section 52. pp. 159-61. In later works Husserl uses the phrases "noematic pole" (*Ideen Zu einer reinen Phanomenologic und Phanomenologischen Philosophie*. First book, *Husserliana III*. Edited by Walter Biemel.

The Hague : Martinus Nijhoff, 1950 p. 136) and "objects --pole" (see Edmund Husserl, *The crisis of European sciences and Transcendental Phenomenology : An Introduction to Phenomenological philosophy*, trans. David Carr (Evanston: North Western University Press, 1970), p. 170 instead of "pure X".

114. Edmund Husserl, *Ideas : A general Introduction to Pure Phenomenology*, trans. W.R. Boyce Gibson (London : George Allen & Unwin, 1931), Section 130. p. 364.

115. *ibid*; Section 99, p. 290.

116. Edmund Husserl *Ideas : A general Introduction to pure Phenomenology*, trans. W. R. Boyce Gibson (London : George Allen & Unwin, 1931), Section 98, p. 289; Section 150, p. 148, p. 157.

117. See Edmund Husserl, *Ideen Zu einer reinen Phanomenologic und phamenologischen Philosophie*, first book, *Husserliana III*, ed. Walter Biemel (The Hague : Martinus Nijhoff. 1950), (*Ideas I*, Beilage XXIV, p. 411.

118. Claesges, *Raumkenstitution*, p. 59, n. 5 ; Husserl, MSD 13 I (1921), p.2 this manuscript, which is in the Husserl Archive, contains the clearest presentation of the distinction being made here). Quoted from William R. McKenna Husserl's "Introductions to phenomenology" Martinus Nijhoff publishers p. 136.

119. Claesges, *Raumkenstitution*, p. 59, MSD 13, I, pp. 2-3.

120. Edmund Husserl, *Phänomenologische Psychologie*, *Husserliana IX*. pp. p. 158; Husserl's *Analysen Zur passiven synthesis*, *Husserliana XI*, ed. Margot Fleischer (The Hague : Martinus Nijhoff, 1966), p. 296; see Edmund Husserl, *The crises of European Sciences and Transcendental Phenomenology. An Introduction to Phenomenological Philosophy*, trans. David Carr (Evanston: North Western University Press, 1970), p. 158; MSD 13 I, p.5.
121. Husserl's *Analysen Zur passiven synthesis*, *Husserliana XI*, ed. Margot Fleischer (The Hague : Martinus Nijhoff, 1966) (hereafter cited as APS). APS, pp.5 295-99; introduction to Edmund Husserl, *Ideen Zu einer reinen Phänomenologie und Phänomenologischen Philosophie*, Second book, *Husserliana IV*, ed. Marly Biemel (The Hague : Martinus Nijhoff, 1952), p. 130; pp, p. 318.
122. Claesges, *Raumkonstitution*, p.64. As Claesges reports, the flow of aspects is correlative to the kinaesthetic flow(p.65). (Edmund Husserl See also *Ideen I* *Husserliana III* ed., Walter Biemel (The Hague : Martinus Nijhoff, 1950) hereafter cited as *Ideen I*). *Belagie XXIV*, pp. 411-12 and Edmund Husserl *Second book*, *Husserliana IV*, ed. Marly Biemel *Ideen II*, p. 127-30 on all of this.
123. *Ideas* p. 418. It is different to tell if Husserl's comment about perspectives here in *Ideas* is intended noetically or noematically, but it surely holds either way. See also pp, 157-58 and MSD 13 I, p. 6.
124. Edmund Husserl *Phänomenologische Psychologie*, *Husserliana IX* pp p. 159.
125. MSD 13 I, pp. 3-5
126. *Ideas*, Section 234.
127. *Ideas*, Section 35, p. 118.

128. Ibid ; p. 117
129. Unless otherwise specified, the expression "the world" will serve as an abbreviation for "the world, and all the objects, persons, events etc in it".
130. See, for instance David Carr, Phenomenology and the problem of History (Evanston : North-Western University Press 1974), p.15; J.N. Mohanty, The concept of Intentionality (st. Louis : W.N. Green, 1972), pp. 115-16; and Robert Sokolowski,
131. The Formation of Husserl's concept of constitution (The Hague Martinus Nijhoff, 1964). pp. 136-39, 159.
132. Robert Sokolowski, The Formation of Husserl's concept of constitution (The Hague : Martinus Nijhoff, 1964) p. 138.
133. David Carr, Phenomenology and the Problem of History (Evanston : Northwestern University Press 1974), p. 15, n. 37.
134. Ibid, p. 15.
135. J. N. Mohanty, "consciousnes and Lifeworld" Social Research 42(1975:160.
136. Edmund Husserl, The crisis of European Sciences and Transcendental Phenomenology : An introduction to Phenomenological Philosophy, trans. David Carr (Evansteb : North Western University Press, 1970,p. 101.
137. Joseph Kockelmans, "Phenomenologic psychological and Transcendental Reductions in Husserl's 'Crisis', " in Analecta Husserliana, p. 151.
138. Ibid, p. 102.
139. See William R. Mckenna's Husserl's introduction to phenomenology" Interpretation and critique 1982, Martinus Nijhoff publishers, the Hague Boston/London p. 49. Husserl sometimes expresses this by saying that the world is an "immanent transcendence" i.e., it is "intentionally immanent", but "realy (recall) transcendent". See Bochm's essay

"Immanenz and Transzendenz", in his book *Von Gesichtspunkt der phänomenologie*. Bohm explains how the phenomenological reduction gives now new meaning to the concepts of immanence and transcendence so that expressions like "immanent transcendence" can be meaningfully formed.

140. N. J. Paton, *Kant's Metaphysic of experience* (London, 1936), vol. II, pp. 266ff; 306f.
141. Husserl *Logische Untersuchungen* (Halle, 1913), II, i, pp. 128ff; Husserl: *Die Krisis der Europäischen Wissenschaften und die transcendente Phänomenologie*, p 27n. As to the confusion in question in Kant, cf. H. A. Richard, *Kant's Theory of knowledge* (Oxford, 1909), pp. 134ff; 209n 3, 231ff; 280ff.
142. *Being and Time*, tr. J. Macquarrie and E. Robinson (New York, Harper and Row, 1962). sec 41.
143. David Carr, 'The Problem of the Non-Empirical Ego : Husserl and Kant', in David Carr, *Interpretations of Husserl*, Martinus Nijhoff, The Hague, 1987, pp. 146-47.
144. A detailed discussion of methodological individualism is to be found in *Modes of Individualism and Collectivism* ed. J.O 'Neil, London, 1974.
145. The notion of "horizon", which played such an important part in Husserl's earlier writings has here taken on a somewhat broader connotation. Formerly it signified prim rily these connomitant elements in consciousness under condiseration. In every act of consciousness there are as acts of the object that are not directly intended but which are recognized, either by recall or anticipation, as belonging to the object intended. These as acts constitute its horizon. In the present essay "the community as a horizon " signifies the framework in which experience

occurs, conditioning that experience and supplying the diverse aspects of objectivity that are not directly intended in any one act of consciousness.

146. Michael Oakeshott, *Rationalism in Politics and other Essays* (London ; Methuen, 1962) ; Feterwinch, *The Idea of Social Science* (New York : Humanities Press, 1958); R.G. Collingwood, *The Idea of History* (New York : Oxford University Press, 1946) ; Ala Gewirth, 'Voluntarism. Social Uniformities Depend on the choices of Man', *Philosophy of Science* 21 (1954), 229-41, 'subjectivism and objectivism in the social sciences', *Philosophy of Science* 21 (1954) : 157-165; R.S. Peters, *The concept of Motivation* (London Routledge and Kegan Paul, 1958); R.S. Peters and H. Taylor, 'That Behaviourism cannot, Account for Human Thinking' in Krimmerman, pp. 279-88; Ralph Turner, ' conventionalism. Social Uniformities Are Covert Definitions,' in Krimmerman, pp. 228-39; Norman Malcolm, 'Intentional Activity cannot Be Explained by contingent causal Laws, in Krimmerman pp. 334-49.
147. 4.29. cf. S. Strasser, *Phenomenology and the Human Sciences* (Pittsburgh: Duguesene University Press, 1963); pp 8-9.
148. 5.32. cf. *Phenomenology : "The Philosophy of Edmund Husserl and Its Interpretation* pp. 418-51.
149. Martin Heidegger, *Being and Time*, trans. John Macquarrie and Edward Robinson (London : SCM, 1962).
150. This view has been defended explicitly by Edmund Husserl, Jean Paul Sartre, F.J.J. Buytendijk, Jan Linschoten, H.G. Gadamer, Jurgen Habermas, K.O. Apel, and many others.

151. Man's place in Nature trans. Hans Meyerhoff (New York : Nooday press, 1961). pp. 4-6.
152. An Essay on Man (New Haven : Yale University Press, 1944), p. 22.
153. 'The Ambiguity of the Sciences of man', Diogenes, no. 26 (1959), 52.
154. 'The Antinomy of Human Reality and the problem of Philosophical Anthropology; Readings in Existential Phenomenology ed, No. Lawrence and D.O.'connor (Englewood Cliffs. Prentice Hall, 1967), p. 39.
155. In the connection one should consult the second cartesian meditation, where Husserl insists that the only reality that the world can have for one who would approach it scientifically, is a phenomenol reality. If we are to understand it scientifically, our analysis of it must be purely phenomenological, i.e. it is the phenomenon "world" that we must anlyze. "We shall direct our attention to the fact that phenomenological epoche lays open (to me, the meditating philosopher) n infinite realm of being of a new kind, as the sphere of a new kind of experience: transcendental experience" (cartesian Meditations, p. 66). f. ibid., p. 69 : "Now, however, we are envisaing a science that is, so to speak, absolutely subjective, whose thematic object exists whether or not the world exists".
156. The phenomenology of Man and of the Human condition edited by Anna - teresa Tymieniecka; D. Reidel Publishing company Dordrecht : Holland/Boston : U.S.A. London : England p. 197.
157. Husserl's contraposition of Geisteswissenschaften and Nature wissenschaften must also be seen in this perspective even though he displaces it from its cultural environment. Husserl's merit undoubtedly consists of having placed himself beyond this distinction, but at the same

- time one must not underestimate his acceptance of a scheme that was widely diffused in his way.
158. Regular ad directionem ingenili, Rulox 1. The quotation is verbally inaccurate (probably from memory), but the sense is the same.
159. For Husserl, real has a distinctively different meaning from recell. The former is applied only to the material world of facts; the latter belongs to the ideal of intentionality. cf. *Ideen I*, pp. 218-20.
160. cf. Husserl's *Encyclopaedia Britannica* article, "Phenomenology" where he develops the notion of a "pure" psychology independent of psychophysical considerations.
161. "Dualism" and "monism" are terms whose meanings are not easily determined. As a convinced "idealist" Husserl considered himself monist, and he criticized Kant strongly for remaining a dualist. Hegel, on the other hand, criticized Fichte (whom Husserl resembles closely in this) for not having escaped dualism. One might well make a case for designating as monism a theory that accepts only one kind of reality, to which both matter and spirit (or the "factual" and the "ideal") belong. By this criterion Husserl's distinction would be "dualistic". Perhaps the best that can be said is that Husserl is, in intention at least, epistemologically a monist. Spirit alone is being in the full sense, because only of spirit can there be science in the full sense. One conclusion from all this, it would seem is that the terminology involved bears revision.
162. If the proper function of true sciences is to know "essences", there seems little question that the sciences of nature neither perform nor pretend to perform this function. If, in addition, essences are, only in so far as they are "constituted" in consciousness (ultimately spirit), then only a science of spirit can legitimately lay claim to the title.

163. One is reminded of Hegel's dictum that when reason is conscious to itself of being all reality it is spirit. The difference in the paths by which Hegel and Husserl arrive at this conclusion should be obvious.
164. Husserl writes : "Diese universale epoche hinsichtlich aller Geltungen vollzieht sich hier als Untelage und in Absicht auf eine Universale, aus Quellen der Wahrheit und Echtheit Zu leistende Selbstgestaltung bzw. Gestaltung eines neuen and Wahren Lebens" (Erste philosophie II, Husserliana, vol III, p. 155).
165. Dethy and Phenomenology edited by Rudolf A. Makkreel and John Scanlon 1987, center for advanced research in phenomenology & University Press fo America, Washington D.C. p. 31.
166. Rudolf A. Makkreel, "Husserl, Dethy and the relation of the life-world to History " in Research in Phenomenology, 1982, vol. XII, p. 41. see also Wilhelm Dethy, Einleitung in die Geisteswissenschaften : Versuch einer grundlegung fiir das stadium der Gesellschaft und der Geschichte, in Gesammelte schriften, vol. I, ed. by Bernard Greethuysen (gottingen : Vandenhoeck & Ruprecht, 1973), p. 369.
167. Edmund Husserl, "Der Mensch als Themaseele -Geisteswissenschaft", October, 1929, unpublished manuscript classified by the Husserl Archives, Leuven, Belgium as A VI 15, p. 105.
168. E. Husserl, Ideen Zu einer reinen Phanomenologie I (The Hague : Martinus Nijhoff. 1950), p. 59 ; Erste Philosophie II, p. 387 ; Krisis p. 114
169. E. Husserl, Ideen III, p. 161.
170. Ibid., p. 139.
171. The author (J.E. Jalbert) wishes to thank the Husserl Archives in Leuven, Belgium and its director, Prof. S. Ijsseling, for providing access to and permission to cite from archival materials.

172. *Gesammelte Schriften* (Stuttgart : B.G. Teubner and Gottingen : Vandenhoeek & Ruprecht, 1914-1982), vol. VIII, p. 171.
173. Edmund Husserl, "Phenomenology as strict science ", in *phenomenology and the crisis of philosophy*, trans with intro. by Quentin Lauer (New York : 1965), pp. 122-27, 136. Even before Husserl, Wilhelm Windelband saw Dilthey as "stalled in the timidity of psychological relativism " seen *Die Kultur der Gegenwart Teil I, Abteilung V*, edited by Paul Hinneberg, Berlin : B.g. Teubner, 1923), p. 585.
174. "Dilthey - Husserl correspondence", p. 204. Quentin Lauer observes soundly : "It is doubtful whether Dilthey was a 'realivists' as Husserl makes him out to be, or that Husserl was as 'absolutist' as Dilthey thought'. *Phenomenology* p. 124.
175. Dilthey, *selected works*, vol. 5, (Princeton : Princeton University Press, 1985), pp. 96-97.
- 176 cf. Alfred Schuetz, "Phenomenology and the social sciences" in *Philosophical Essays in Memory of Edmund Husserl*.

PHILOSOPHICAL ANTHROPOLOGY

Man, the human reality, the human self as constituting, structuring, creating, linguistic, interpreting agency.

In his book Philosophy and the Brain Y.Z. Young refers to Armstrong's view of science that 'only in science we reach an intellectual consensus about controversial matters' ¹.

He further says that we humans are indeed ignorant and confused creatures, and we are surrounded by mysteries. He also examines the question what's in a brain. He says in order to understand what is meant by the word 'brain' as it is used by neuroscientists, we must bear in mind the evidence that this organ contains in some recorded form the basis of one's whole conscious life. It contains the record of all our aims and ambitions and is essential for the experience of all pleasures and pains, all loves and hates. In the brain lie the texts that make possible all one's knowledge. If I ask you the date of the Battle of Hastings, you reply '1066'. Where was that information before I asked? It was not in your 'mind', which then contained (perhaps) 'this is a strange book I am reading'. The date was somehow recorded in the brain, ready to be recalled when needed.

Included in the brain are all the rules and instructions for the actions of speech and writing by which we communicate with others. This implies all the conventions of logic and mathematics by which we reason. Moreover, somehow recorded are represented there are the data that allow recognition and recall of all sorts of shapes, of faces, of scenes and of pictures. In the brain again, in some notation are some versions of 'scores' of the music that we can recognize and can sing or play on an instrument. In short, the brain contains, as I say, all one's capacity for conscious life.

Meanwhile it may be useful to mention briefly a few of the types of evidence which show that all these powers depend upon the brain. These include the histories of those unfortunate people who suffer damage of the brain through accidents, tumour or strokes, with a resultant loss of some or even all of the ordinary capacities for emotion, memory and learning that most of us have. Moreover, physiologists and surgeons operating on the brain for the relief of epilepsy have shown how access to its store of information is to some extent localized. The great mass of these results shows that particular parts of the brain are involved in sensory, motor and emotional activities and experiences.

Patients with injury to the visual areas of the cerebral cortex may be unable to recognize and name familiar objects. One shown a picture of a pair of spectacles, said 'Perhaps it is a bicycle'; shown a sketch of a face, he said 'It seems to be an orange with slashes in it.' Patients with injuries to the right parietal lobe may be unable to recognize faces.² This defect, called prosopagnosia, may be limited only to this one type of recognition, other objects are readily identified. So this very important capacity to recognize your fellows, which is characteristic of man as a social animal, depends upon the integrity of that part of the brain. This does not mean that this region by itself is capable of the feat of recognition, but it seems likely that it contains cells that are responsive to particular faces. However, the nature of memory records in the brain is still uncertain.

Consciousness is an aspect of the functioning of the brain, not something that can exist apart from it. My brain and body are inseparable from myself. It is an interesting philosophical and linguistic question whether we should say that they are 'the samething'. I prefer to say that 'mind' is not a 'thing' at all, but that consciousness and mentality are characteristic properties

that accompany certain activities of the brain, rather as movement is a characteristic property of legs, or of a wheel, and calculation is of a computer.³

In the extreme case, in the absence of a functioning brain; the mental activities of an individual all cease. Conversely, all mental activities are accompanied by some corresponding cerebral activity.

It is tempting to say that events in the brain 'cause' mental events : a formulation used recently by Searle⁴

But the 'laws' by which any given brain operates are extremely complex and are changing at least a little all the time as a result of on going experience. Your 'lawlike response' to the question 'what is your favourite picture ?' is likely to change from time to time the question 'what is your name' will be followed by nearly the same brain response every time: but not if it is asked several times in quick succession.

This complexity and adaptibility of the brain means that precise forecasting of correlations between mental events and physical processes is never possible.

If damage to the brain has been severe, doctors may make a diagnosis of 'brain death', which for some purposes is regarded as the equivalent to the actual and legal death of the person. It is likely that in the future great discoveries will be made as to how the brain is related to consciousness.

For every individual his own conscious existence is the ultimate reality, beyond any possibility of doubt. The difficulty for each of us is to know how to characterize and name this entity - oneself. Correspondingly, how can we best refer to other people ? We can call them plain humans, or persons or minds or souls, each word giving a slightly different emphasis. It is quite clear that one cannot describe oneself for others as 'simply brains'. Yet

paradoxically whatever a human person is depends completely on his brain, and if the brain changes greatly, the person (sadly) changes too. Indeed the brain changes daily throughout life as one learns, unless one is too old or has Alzheimer's disease or has lost the hippocampus (Ch. 20).

These are paradoxes that science and philosophy cannot yet completely resolve. Perhaps they never will. The conscious experience of each person remains as the essential entity that is valued as human. It is not for the scientist to lay down the law as to how it should be regarded, but he insists that it only and always accompanies brain action.

The fact of human consciousness seems to separate us from the rest of the living world, and yet there is abundant evidence that all mental events are correlated with brain processes. The peculiar human brain processes may be the ones that accompany intentional mental events, especially those referring to future ends. It may be that our brains have evolved special powers to contain representations of situations that are not yet present. This power of anticipation is obviously a very useful facility for survival and may have been the basis for the evolution of our consciousness. The most conspicuous use of the capacity to form representations is the power that it gives to recognize a consciousness like one's own in other people. This awareness of others provides the basis for our whole elaborate social, ethical and moral system and makes us naturally prone to what Strawson calls the participant attitude, in contrast to the objective or scientific attitude.⁵ He believes that we must accept the pervasive existence of these two distinct 'stories' about human life but perhaps further understanding of their neural basis may help to show the relations between them.

We are at present just beginning to understand how the brain operates to build representations of the world and of other people. Something is now

known about the selective formation of connection between nerve cells during learning and the influence of those parts of the brain that specify the needs of the person and influence his moods and satisfactions.

Such information from biology and neuroscience helps towards a better understanding of oneself. It provides information about the source of one's experienced life which could not be known only by introspection. It helps to provide a rational answer to the question : What am I ? It tells me how I have come to my present state and something of the nature of the brain and its possibilities and limitations. This helps a lot by showing the implications of the fact that all we living things are very special self maintaining homeostatic systems. We continually try to achieve the aim of promotion of life - especially our own. Human beings in particular have elaborate mechanisms in the brain and glands tending to make them act in the ways that they do. They are primarily selfish and may be aggressive, but as social creatures have special propensities to learn to love and to help each other.

He further says that he finds all such knowledge helpful and he thinks it is time that people stopped talking about reductionism as if increased knowledge somehow subtracted from human dignity on the contrary, reductionism consists in seeing ourselves in terms beyond the simple impression of the senses and so enlarging our knowledge of our nature. This adds greatly to understanding of our possibilities and limitations and hence ability to conduct ourselves wisely and especially with the fullest respect for other human beings and indeed for all life however, by the same token no amount of reductionism can be applied to the study of subjective experience, since this is essentially one's own point of view.

The reality for me is my continuous living self, one entity experiencing a series of mental events, including those that indicate that I have a body and a

brain. The evidence shows that I and my brain are one: without a brain I should be nothing. If the person is inseparable from his brain it is senseless to ask which of them controls the other. We should not confuse ourselves with such questions but devote our energies to increasing understanding of how best to describe ourselves and our brains and so to improve the quality of life.

Kathleen Nott in Philosophy and Human Nature⁶ says 'that she doesn't pretend to have answered the problems or even to have posed more than a few of them. All that she has suggested is that man is not only a subjective animal but a philosophical one. If he is to grow into human stature there are certain questions he has to ask himself about himself and his world - and these are universal, not ephemeral questions, and therefore not confined to economics and politics.

Man's behaviour is greatly influenced by his view of man.⁷ Gardner Murphy has expressed it thus; "As man makes new images of himself, he indulges in self-fulfilling prophecies. He has always made himself, into what he imagined himself to be." ⁸

Man is a holistic totality, a whole greater than the addition of his parts traits, processes and functions. He is self-determining, self governing. He is unique. These are the three interwoven conceptualizations in the view of man emphasized. Referring to the first conceptualization, we note that James F.T. Bugental states this as the defining characteristics of man: I propose that the defining concept of man basic to the new humanistic movement in psychology is that man is the process that supersedes the sum of his part functions. ⁹ The very elusiveness of the self - James says that to grasp it fully in consciousness is like trying to step on one's own shadow - proves that it is the ground of all experience. Although seldom salient itself, it provides the platform for other experience. ¹⁰

Man is self - governing, self - determining, responsible for his being and becoming. This second conceptualization regarding the nature of man rests on the first. Maurice Tamerlin explains :..... The relationship between personal responsibility and the experience of free choice is intimate : without a prior feeling of freedom to choose between alternatives, the individual does not view himself as responsible.

A sense of personal responsibility, then, seems to follow the experience of free choice. The sequence raises the question : what experiences precede a feeling of free choice ? At the experiential level, choice depends upon an experience of self, or of personal identity. To choose implies an identity, a sense of self or "I", a person who chooses in terms of his own thoughts and wishes. Choice requires a sense of self, reciprocally, the exercise of choice is an affirmation of selfhood. "Man is never more human than at the moment of decision", as Tillich put it. ¹¹

The third conceptualization Viz, man is unique, i.e., each person is like no other that now exists ever existed in the past or ever shall exist in the future, is especially stressed by the existentialist. To quote Allport again:

Each person is busy building his own peculiar constellation of ego-world relationships. His motives are his own, taking always the form of "personal projects". His inheritance is unique, all his ego world relationships are unique. Existence ultimately resides nowhere except in the individuals point of view. Certainly no counselor or therapist can succeed, unless he can understand the patients dilemma from the patient's standpoint. A million mortals will experience their ego-world quandaries in a million ways.

Thus, at bottom, the existentialist approach to man is urgently ideographic....." ¹²

The holistic, self-determining and unique nature of man is summarized well in the following stimulating words of Abraham Maslow: the human being is an irreducible unit, at least as far as psychological research is concerned. Everythin in him is related to everything else, in greater or lesser degree.

This has one important consequence. In his essential core, no human being is comparable with anyother. Therefore his ideals for himself, his path of growth must also be unique. His goal must arise out of his own nature, and not to be chosen by comparison or competition with others. Each man's task is to become the best himself. Joe Doakes must not try to be like Abraham Lincoln or Thomas Jefferson or any other model or hero. He must become the best Joe Doakes in the world. This he can do, and only this is necessary or possible..... 13

Let us have a brief yet comprehensive look at the view of man espoused by contemporary Humanism. According to Lamont, there are ten central propositions to the philosophy of Humanism.¹⁴ First, Humanism believes in a naturalistic metaphysics or attitude toward the universe that considers all forms of the supernatural as myth, and that regards nature as the totality of being and as a constantly changing system of matter and energy which exists independently of any mind or consciousness. Second, Humanism, drawing especially upon the laws and facts of science believes that man is an evolutionary product of the nature of which he is a part, that his mind is indivisibly conjoined with the functioning of his brain, and that as an inseparable unity of body and personality he can have no conscious survival after death. Third, Humanism, having its ultimate faith in man, believes, that human beings possess the power or potentiality of solving their own problems,

through reliance primarily upon reason and scientific method applied with courage and vision.

Fourth, Humanism, in opposition to all theories of universal determinism, fatalism or predestination, believes that human beings while conditioned by the past, possess genuine freedom of creative choice and action, and are within certain objective limits, the masters of their own destiny.

Fifth, Humanism believes in an ethics or morality that grounds all human values in this - earthly experiences and relationships and that holds as its highest goal the this - worldly happiness, freedom, and progress - economic, cultural, and ethical - of all mankind, irrespective of nation, race, or religion.

Sixth, Humanism believes that the individual attains the good life by harmoniously combining personal satisfactions and continuous self-development with significant work and other activities that contribute to the welfare of the community.

Seventh, Humanism believes in the widest possible development of art and the awareness of beauty, including the appreciation of nature's loveliness and splendour, so that the aesthetic experience may become a pervasive reality in the life of man.

Eighth, Humanism believes in far-reaching social program that stands for the establishment throughout the world of democracy, peace, and a high standard of living on the foundations of a flourishing economic order, both national and international.

Ninth, Humanism believes in the complete social implementation of reason and scientific method; and thereby in the use of democratic procedures, including full freedom of expression and civic liberties, throughout all areas of economic, political, and cultural life.

Tenth, Humanism, in accordance with scientific method, believes in the unending questioning of basic assumptions and convictions, including, its own. Humanism is not a new dogma, but is a developing philosophy ever open to experimental testing, newly discovered facts, and more rigorous reasoning.¹⁵

George Wald : in determinacy, individuality and the problem of free will uses as a starting point for his comments on determinism, individuality and free will, the Heisenberg's Uncertainty principle which states that the more accurately one succeeds in measuring the position, at a given instant of time, of any elementary particle such as an electron, proton, neutron or photon, the less certain one is of its velocity, or vice versa. The ultimate uncertainty regarding the behaviour of particles is formidable and seems to represent a fundamental property of the nature of particles and hence of the nature of the universe since matter is composed of them. Thus we can confidently say that nature, and therefore man, is ultimately unpredictable. Wald mentions in this connections that,

In a discussion which stretched over many years, Einstein and Bohr argued this point, Bohr maintaining and Einstein continuing to doubt that the uncertainty principle expresses ultimate reality. Most physicists agreed with Bohr, and still do.¹⁶

Wald then discusses the phenomena of individuality. He explains: there are no two living cells, and would venture to say there never have been two living cells, that are or were identical. What kind of thing is a living organism to present this extra ordinary individuality?

For one thing, living organisms are enormously complex. They are organised associations of great numbers of very different kinds of molecules known to chemistry. The enormous complexity of the composition of living organisms in itself makes identity very improbable.

That complexity is compounded by the fact that living cells have not a static but a dynamic composition. They are the loci of a constant inflow and outflow of energy and material... living organisms are individual not only in space but in time. They grow old; they acquire new characters; they bear the scars of experience - and all these things make them recognizably different at every stage in life.

A further reason for the rigorous individuality of living organisms is that the genetic information that determines them - a monkey, an amoeba, a bacterial cell - is laid out in such nucleic acid molecules..... in the form of a molecular tape in which the four kinds of nucleotides which are the units of nucleic acid structures are linked in specific sequences in one continuous chain. It is the reading of those sequences that determine the entire eventual structure and composition, and even aspects of the behaviour, of living organisms. ¹⁷

..... Through the factors we have been discussing, the complexity of the organism, its dynamic state, and the constant intrusion of genetic disorder, one can be quite convinced that each living thing, including every man, is unique, and individual unlike any other in space and time. But to those factors one must add another of ultimate importance. It is that living organisms store history. Not only does each of us come into the world with a unique composition and inheritance, but to those we begin to accumulate a unique experience. That personal history, growing throughout our lives is ours alone. That private self that is You or I is the unique composition and structure that comes to us via metabolism and inheritance, coupled with a unique personal history that is forever growing. ¹⁸

Finally, Wald refers to the perennial questions of how man can have free will, i.e., freedom of choice when only a little earlier in the same article he has been depicted as a completely determined organism. Wald says :

see no essential incompatibility between such a complete determinism of behaviour and free will. Behaviour may all be determined, but it is surely not all predictable; and I think that the essence of our free will lies in that unpredictability..... the essence of free will is not a failure of determinism but a failure of predictability.

Roger W. Sperry criticizes the materialistic approach that the brain - behaviour sciences have espoused over the past half century. He considers himself among the 01 percent or so minority group of brain researchers who hold that mental phenomena like mind, consciousness, free will etc., are not illusions and ignorable epiphenomena but the most central, the commanding - governing realities. This latter approach - the mentalist view of man puts mind over matter and is diametrically opposite to the materialistic view of man. Sperry makes clear that the scientific facts necessary to decide conclusively which of these two approaches is correct just do not exist at present. He writes : I think we must all agree that neither is going to win the match on the basis of direct, factual evidence. The facts simply do not go far enough to provide the answer, or even to come close. Those centermost processes of the brain with which consciousness is presumably associated are simply not understood. They are so far beyond our comprehension at present that no one I know of has been able even to imagine their nature. 19

It is Sperry's opinion, however, that the mentalistic view of man, which regards mind and consciousness as the central causal agents that direct the brain's physiological - physical - Chemical processes more than vice versa, is the correct model.

He comments :

..... It is a scheme that idealizes ideas and ideals over physical and chemical interactions, nerve impulse traffic and D N A. It is a brain model in

which conscious mental psychic forces are recognized to be the crowning achievement of some five hundred million years or more of evolution. 20

Sperry then attacks a second enemy of the humanistic view of man, viz., the prevailing, scientific rejection of free will. According to Sperry, man has a considerable degree of free will provided this is interpreted to mean self-determination. He gives his opinion thus :

..... It should be clear by now that in the brain model described here, man is provided in large measure with the mental forces and the mental ability to determine his own actions. This scheme thus allows a high degree of freedom from outside forces as well as mastery over the inner cellular, molecular, and atomic aspects of brain activity. Depending on the state of one's will power, the model also allows considerable freedom from lower - level natural impulses and even from occasional thoughts, beliefs, and the like, though not, of course, from the whole complex. In other words, the kind of brain visualized here does indeed give men plenty of free will, provided we think of free will as self-determination. To a very real and large extent, a person does determine with his own mind what he is going to do from among a large number of possibilities. This does not mean, however, that he is free from the forces of his own decision - making machinery. In particular, what this present model does not do is to free a person from the combined effects of his own thoughts, his own beliefs, ideals and hopes, nor does it free him from his inherited make up or his life time memories. All these and more, including; yes, unconscious desires, exert in the brain their due causal influence upon any mental decision, and the combined resultant determines the inevitable but self-determined and highly special and highly personal outcome21

Finally, Sperry appraises the materialistic - behaviouristic view that man's brain gets its start in fetal life as a blank slate and is subsequently conditioned by the environment. He reminds us that :

..... In this doctrine the mind or psyche, was believed to develop gradually out of a lifelong chain of successive conditioned reflex associations, starting in the infant from a few elementary reactions, like love and hate, fear and anger. The whole idea of the genetic inheritance of behaviour pattern was forcibly renounced, until the term "instinct" became highly discredited in professional circles, its defamation almost equalling that of consciousness..... 22

Sperry then adds :

Much of the basic scientific thinking and evidence behind this view has since suffered a series of severe upsets, leading to a current stand that is almost diametrically opposed to the earlier doctrines.... the conditioned response, along with other forms of learning, continues to be recognized, of course, as a highly powerful influence, especially in man, but only within limits made narrower than previously supposed.

Within the specialized fields of scientific inquiry involved here, the pendulum of opinion continues at this date to swing in the direction of inheritance...23

William James's views on the nature of man has been presented as occurring in five stages in "An Exposition and Analysis of William James's views on the nature of man" 24 they are as under.

MAN IS AN ADAPTIVE ANIMAL :

This was James's original view. Essentially it states that man is an animal who, having arisen through the process of natural evolution involving

the survival of the fittest, strives to survive in the environment by adapting to it.

To Quote Charron :

..... James argues that, functionally considered, the essence of mental life and physical life are the same - both are primarily and properly ordered to the practical end of securing the preservation and well-being of the physical organism..... 25

MAIN IS A MORAL HERO :

During the mid - 1890's, James began to focus on man as a being that lived for the sake of serving ideals - such as honour, valor, truth, integrity, the humanization of man, etc. In the portrayal heroism and self-sacrifice in the service of an ideal world were the ingredients that specifically characterized man. Man was viewed as the being committed to high ideals and values; as one who was willing to preserve, suffer pain and martyrdom on their behalf.

Thus, Charron explains :

For James, life appears to have a meaning for us only as long as it seems to be for the sake of something higher. No mode of living can ultimately be appreciated by man as an end in itself. As a result, life or any form of vital activity feels insignificant or meaningless when taken by itself. However, by assuming the heroic and strenuous mood, a man feels that his life has meaning because he feels he is living for the sake of some higher purpose. From this perspective, it is obvious that higher ideals are important to James only because commitment to them makes possible the release of man's energy for the heroic life..... 26

And he continues by adding :

..... Zest for life is the mental state characteristic of those in the thick of a struggle for ideals: their blood is up, and their interest is keen. In short, the constitution of human nature is such that no matter what of a man's desires are fulfilled, if his propensities for life "in extremes" are not being utilized, he will eventually slip into deep depression.....²⁷

What is needed, then to actuate a man's propensities for the ennobling type of strenuousness is an adequately stimulating ideal..... ²⁸

For both James and Nietzsche, life is more becoming than being. The full intensity of life is realized in self-assertion and sacrifice, challenge and daring, not compromise and contentment, tranquility and security. It is only through his power to suffer for his ideals that a man senses most deeply the meaning and dignity of his existence as a living being..... For man, a perfectly painless life would be a subtle version of hell. He needs struggle and pain in his life in order to really feel he has life and to feel the dignity of that life.....

For both these philosophers, James and Nietzsche, the great man is the man who distinguishes himself on the battlefield of life with a undaunted determination to fight for his ideals in the face of difficulties and absurdities that lay his weaker brethren low. The weaker one's he hedonistic comfort seekers and the stoical preachers of acquiescence, fail to meet the demands of human existence: The purpose of the human drama, for man, is indelibly the great effort he can make and the personal power he can manifest in the pursuit of the ideals he sets for himself. The extent to which a man makes the heroic effort in struggling for his ideals is the direct measure of that man's worth as a man. ²⁹

MAN IS A WITNESS OF DIVINITY

In the late 1890's, his probing into the questions of human immortality and phenomena like mysticism and spiritualism, led James to believe in a new view of man. This view defines man in terms of an extra-physical and divine dimension of reality that is, the conscious mind came to be viewed by him as only a small portion of man's total mind - = the larger portion being his subconscious..

Thus Charron notes

..... James shifts the center of man's being from his physical organism, and even from his conscious mind to a subliminal or subconscious mind of man. This subliminal region of the mind allegedly constitutes the "larger" and "more important" part of man. This subliminal region is larger in that it is open to dimensions of reality that far exceed that dimension in which we live as physical beings and of which we are conscious as "normal" waking consciousness. This same subliminal region is more important to us in that the dimension of reality to which it is open is the divine order of reality. James contends that, from this divine order through his subliminal mind, a man receives the same "saving energies" that actuate saints, mystics and other religious giants..... 30

In contrast to his earlier view, therefore :..... James begins to minimize the role of positive volitional effort in the life of man. In relation to the larger subliminal self, James thinks that the waking self is an inferior self which attains its perfection by surrendering itself to the greater power of the subliminal order. Previously, in the middle of the 1890's, James had thought that the only gospel of salvation for man was the gospel of strenuous and heroic will effort..... He now argues that the way to meaningful life is through a surrender to the deeper subliminal powers..... 31

MAN IS A PURELY PHYSICAL PHENOMENON :

Beginning in 1904, James made a radical change in his most basic assumption. So far he had developed his theories within a dualistic framework i.e., man consists of an interacting mind and body. Now, James began to argue that there was no such entity as mind - that man is only a body. Thus, Charron notes :

..... James denies that there is any experience, even introspective experience, of anything that is immaterial, be it a soul, an inner spiritual life, a non-physical stream of consciousness, or what have you. Whether one considers another man or reflects unto himself, the only thing that is experienced is the body and various bodily changes that can be mistakenly interpreted as immaterial or spiritual events when in fact they are but felt physiological adjustments, strains, and tensions... all the basic facts of human behaviour can be explained without recourse to anything more than the body. All human endeavour is explainable in terms of the physical.....³²

MAN IS DIVINITY :

This was James's view of man during the last few years before his death in 1910.

Once again, he focuses on man as an interacting synthesis of mind and body, but considers the mind more important than the body..... The human body was relegated to the status of a "weight" which dragged the mind's attention into the physical order. That part of man which is called the waking consciousness was claimed, by James, to be continuous with a wider, but hidden consciousness the so-called "subliminal consciousness", was held to be the source of many of the energies experienced by the waking self of man.....

Again..... James identifies man with the mind. And again he claims that the normal waking consciousness of man is continuous with a wider mind from which saving experiences come. However, James now goes further.... He now claims that the wider self, or wider consciousness, of each man is the one God. Before, in his religious writing, James had been content to imagine that the wider subliminal self of each man was separate and distinct from every other man's and he had been satisfied to picture the deity (or deities) as transcendent to man and as the environment and object (s) of each man's wider consciousness..... However, in 1908..... James's pantheism imagines God on the subject side of human consciousness, as a co-witness who is continuous with that human consciousness. As continuous with the larger consciousness which is God, the human consciousness can be viewed as an "internal part" of God..... 33

Man is (1) A communicative being : A relating, transmitting and receiving, sharing and exchanging being.

(2) Accepting of non-hedonic emotions : Accepting and appreciative of the reality, unavailability and value of affective experiences like pain, anger, fear, resentment, guilt, anxiety, boredom, loneliness, emptiness, weakness, etc.

(3) Always in process; Dynamic, ceaselessly changing, continuously becoming.

(4) Conscious / Aware : Aware of what is, of nature, but more specifically of himself (his likes and dislikes, his strengths and limitations and his practically infinite potentialities), of his fellow man, and the inter-relationship and inter-dependence between them.

(5) Creative : Explorative, constructive, productive, etc. of phenomena other than himself and his fellowman. The concept of creating his fellowman is included under the dimension ' other-affirming'.

(6) Forward-Thrusting : Proactive, initiative taking, constructively aggressive.

- (7) Freedom -Cherishing : Desirous of safe -guarding his freedom of choice, his right to be himself, and of enlarging his margin of freedom so as to be able to become all he can become.
- (8) Future-imagining : An aspiring being ; a personification of hope and faith; a dreamer of dreams.
- (9) Goal-directed : Intentional, purposive, an objective setting and accomplishing being.
- (10) Holistic/An integrated whole : An organized totality of body and personality; a unity.
- (11) Intelligent : Able to solve problems, meet life's challenges, live fully through using his conscious and unconscious mind. The use of process like intuition, imagination, etc., are included in this category.
- (12) Much like fellow man : Similar to other human beings in the world.
- (13) Nature-appreciating : Appreciative and admiring of the beauty in nature, in the phenomena of life that pervades this infinite, eternal cosmos.
- (14) Ontologically responsible : Responsible for his own selfactualization. (15) Open to life/experience : Non-defensively aware, free to experience the world within him and outside of him.
- (16) Other-affirming : loving and respectful of the other person; facilitative of his self actualization.
- (17) Pleasure-loving : Desirous of feelings of joy and happiness.
- (18) Present-confronting : Fully absorbed in living in the moment, in the here and now, intensely involved in whatever he does.
- (19) Rational : Logical, sane, sensible, a user of reason.
- (20) Risk-taking/Courageous : Daring enough to be his authentic self; adventurous.

- (21) **Self-active** : Dependent on himself for motivating himself, for energizing himself, for propelling himself to be and become his full self.
- (22) **Self-actualizing/self-realizing** : Being and becoming his authentic self; utilizing his practically infinite potentialities; becoming what he potentially is creative of himself.
- (23) **Self-affirming** : Respectful and loving of himself, of his unique nature; authentic; naturally spontaneous.
- (24) **Self-determining** : Self-defining and self-directing; self-choosing; living rather than being lived.
- (25) **Self-disciplining** : self-regulating, self-controlling.
- (26) **Sexual** : Biologically designed to desire intercourse with a member of the opposite sex.
- (27) **Socially responsible** : Responsible for facilitating the selfactualization of his fellowmen.
- (28) **Ultimately unknowable** : A mystery, despite all we know or can know about him, always beyond complete understanding.
- (29) **Unique** : Distinct and irreplaceable; each man is like no other person that presently exists, has ever existed or shall ever exist.
- (30) **Other/Miscellaneous** : This category is to be used to list any dimensions necessitated by the content analysis that cannot be reasonably accommodated in the other categories mentioned above. The following two dimensions were chosen for this category after a preliminary reading of the five theoretical positions :
- 30 a Reality-accepting
- 30 b Ultimately alone.

Hubert Bonner has given his view of man in his book, On Being Mindful of Man. In this book he expounds the belief that man is a unique, open and

creative individual. The psychological processes of intentionality - and proaction, and the uniqueness of individual human behaviour, together compose the Leitmotiv of his thinking about psychological man..... that study has also confirmed his beliefs that man is not merely a machine but an integral being, not merely a reality but a potentiality: not merely an ordinary creature, but a superior being.

The view of man that emerges here may be interpreted as a blend of two ancient conceptions, namely, the Hebraic idea of responsibility or duty, and the Hellenic model of excellence or the full actualization of human potentialities. The first stresses a life shared; the second, a life individually perfected. The first is a life of discipline and self-control, the second a life of aspiration and freedom. 34

The following comments on the nature of man are based upon an analysis of the existential human predicament, i.e., the interactive merging of the human condition and the cultural situation :

..... although the principle of determinism operates widely, it is not a universal force in the affairs of men. A limited undeterminism is a fact of physical nature and of human life. Although life is governed by innumerable contingencies, it has a wide area of free choice.

However, modern man is moved far less by his capacity to choose than by his awareness of his own finitude..... 35

Anguish, anxiety, and despair are ontological conditions. They are immanent in human nature. Psychotherapy, therefore, cannot eradicate them, and if it did, it would destroy man's human nature. Psychotherapy can perform the supreme task of helping man to understand them as guarantors of his own individuality..... 36

..... We believe that the separation of man from nature, man from other men and from himself is fundamentally the convergent product of the human condition and the social situation..... 37

..... Modern man, who is more mobile than man was in any prior period of history, has only incidental contacts with other men..... This separation from his fellowmen is a combination of abstract concern and indifference : these are the anonymous and impersonal qualities of the alienated man. 38 The grave violation of man's moral conscience is not a psychological state merely ; not the easily understood guilt feelings, but a profound condition of human nature. It is ontological, and cannot be transcended by means of psychotherapy or religious redemption. It is a part of human nature..... thus man is guilty when he compromises truth, when he does not combat injustice, when he submits to evil, when he fails to actualize his potentialities.... We are guilty because we can choose. Guilt, like choice, is an attribute of our human nature, a potentiality of human life. 39

Bonner moves on to comment on man's freedom to choose :

.... When I choose, I incur an awesome responsibility not only toward myself but toward others as well; for when I choose I make a decision for all those in the orbit of my own behaviour and experience.... Human beings thus share a common burden, the awe-full responsibility of sealing their fate in the act of choice. 40

Any psychology that probes beneath the overt or public behaviour of human being is inevitably faced by the incontrovertible fact that they are profoundly motivated by their inner experiences. The subjective life has not been adequately described by the Freudian concept of the unconscious. On the contrary the fully human quality of this inner life is not unconscious but conscious. It consists in the capacity and the act of choice..... 41

Experience thus persuades us to believe in the reality of self determination, in the capacity of each of us to be an affective individual. Wisdom, if it means anything psychologically, is the recognition by each of us, that he is responsible for his own destiny.....42

All living stuff acts toward the consummation of a purpose. If its efforts are frustrated, if its goals are blocked, the organism will reach for the same end by some other route.

In the case of man this principle of goal-direction is normally a deliberate and conscious one. It is an attribute of the human self. Indeed, the mature self is the organized totality of self-regulations, of goal-directedness, of intentions in the process of actualization. This intentionality is an act of free choice among alternate goals, and an act of deliberation concerning the best means of reaching them. 43

Man differs from all other animals in his capacity of choice. In choice, also, lies his individuality and uniqueness. Modern geneticists have agreed that every human being is unique..... 44Moral behaviour is thus one of the highest, if not the supreme, manifestations of volition, deliberation, and choice. For more than a century the prevailing psychologies have ignored the problem of moral behaviour. This neglect is the natural consequence of a view of man which admitted only the sole or the combined influence of heredity or environment. Man was conceived to be the product of one or both, factor, especially in early childhood experience. He could not modify his behaviour in the light of his own purposes. He could not choose to transform himself in accordance with his image of himself as a perfectible human being..... 45

.....at no other period in history has man been more confronted with the inescapable fate of all men : The fact that all men must choose..... 46.

..... No man in possession of his powers can escape accountability for his acts. He alone among animals, has the dreadful responsibility of choosing between good and evil, and he alone is conscious of possessing it.....⁴⁷

..... For all the emphasis on the externality of behaviour in recent psychology, for all the panegyrics on the merits of social responsibility man is first, not last, a self-affirming being. The center of his existence is neither nature nor society but himself..... ⁴⁸

..... One proves his existence, or validates his individuality, by means of the courage to be himself. This self-validation through actualization of one's being is a matter of moral integrity..... ⁴⁹

..... in final analysis, the one important fact about the human being is that he is potentially the author of his own history.....⁵⁰..... no existence, and most particularly no personal existence, is possible in the absence of man's regard for and commitments to, other human beings.....⁵¹

.....Freedom to choose, always incurs responsibility toward others, not only oneself. In the absence of this responsibility, freedom is exploitation.... the person whose rights are protected by a free society is morally obligated to guard and enhance the freedom which sustains his own independence.....⁵²

..... Contrary to the universal American philosophy that every individual fulfills his purpose in the attainment of happiness, the men who have left a mark upon their fellow beings, have been individuals with the passion to leave the world different from what it was before they were thrust into it....

Being thus freed from the compulsive search for happiness, the proactive individual can lend himself freely in the service of others. Freedom without commitment is licentiousness..... ⁵³

..... The reality of the self is validated by its participation in the world of other selves. Ich Und Du - I and thou - together form the continuum of human existence. Apart from another, I am only an object never a complete person. The alienation of which existentialists have written so movingly, is not due solely to the partition of the individual, but to his separation from other individuals..... 54

..... Yet, all the conditions of contemporary experience point unequivocally to the fact that man's most desperate longing is not group - relatedness, but self-fulfillment. Man does not seek merely the happiness that a group can provide, but more profoundly the dedicated search for himself. Man is truly his own foundation..... 55

Bonner then focuses on the future oriented, self-transforming nature of man.

All living things, and most profoundly human beings, complete themselves in the future..... 56

..... Man, we have said, is not a passive reactor to stimuli or situations. He is a seeker of future ends. He is not fixated on a single temporal dimension, but unites all of them in himself. His style of life is, nevertheless, an expression of a dynamic forward thrust..... 57

..... Psychology must widen its horizon to permit us to view man as a self-directing, freely-choosing, value-creating individual..... 58..... The great moments in the history of human psychology, from Plato to the contemporary growth theories of human personality, have described human nature as always in the process of becoming. The view of man as a proactive being is nurtured in the belief in that which is not yet. It believes that, in real way, what gives every person his being, his personality, is the person himself. Each creates his reality, his being, in accordance with his vision of who he wants to be Each of us is a being in the process of becoming..... 59

.....Proactive or humanistic psychology is finding increasing evidence in support of the view that man is not wholly - or even largely - a seeker stability and quiescence..... 60

..... In so far as existence, or being, consists in its becoming, becoming is like the future dimension itself, the primary phenomenon of nature, both material and human.....61

..... Man desires not only safety and security, but the exultation that comes from adventure and the search for novelty. He has been known to abandon security for the risk of achieving greater fulfillment and a higher level of self-integration..... 62

A fascinating aspect of this becoming is that the person who cares for the becoming of another person is himself swept along by the other's self-actualization..... Each is directed forward by the becoming of the other. It is this mutuality as well as the sacrificial nature of creative human relationships, that lends to self-affirmation its other mindedness. 63

..... In proactive psychology..... man is seen as the seeker after values which he sets up himself. From this point of view, more important than tranquility, security, and survival is the individual's desire to fulfill himself as a unique person..... 64

..... Proactive life, which is to say the truly human life, is indeed an endless becoming..... 65

In conclusion, Bonner writes : The controlling purpose in this book, which we have sedulously and single mindedly pursued, is to lay bare the individuality of the human being; to show that his being is constantly changing in the direction implicit in his style of life. Man is a multiform being, seeking to actualize his potentialities. He cannot be meaningfully described by means of

such separate elements as drives, motives, memories, and cognitive structures. Rather, he must be viewed as a life - totality. 66

..... man is that species of animal who strives to attain a higher state for himself and his fellow human beings through his own efforts..... 67

.....The conscious self is thus not an epiphenomenon, not the fringe of experience, not a set of habits, but the core of organized and meaningful experience, the organizing and self-regulating capacities of the total personality. 68

The stress on the wholeness of the human being is a marked characteristic of the newer trend in personality theory. Whether we call it organismic, holistic, personalistic, or proactive, the stress is always the same : personality is a relatively consistent and unique whole..... 69

The recurrent theme of this book is that man is a creative and proactive being.....Contrary to the belief that a proactive and humanistic psychology is too easy and optimistic, all the evidence that we can muster shows that self-transformation is the most difficult of all human tasks.....70

Having said all this, we are nevertheless driven to the necessary conclusion that a holistic knowledge of man is an ideal, not a reality. A total knowledge of the whole man is impossible, and we must rest satisfied with partial insights into the whole. In this fact lies both the agony and hope of every sincere investigation of human behaviour.....71

The threshold of our modernity is situated not by the attempt to apply objective methods to the study of man,72 but rather by the constitution of an empirico -transcendental doublet which was called man. (OT 319).

Man can never get behind his language to frame an objective account of how it began or how it works. Yet he uses language so he must in some sense already understand it. He takes up and employs his mother tongue "without

knowing it, and yet it must be known, in a certain way, since it is by this means that men enter into communication and find themselves in the already constructed network of comprehension" (OT 331)

Generalizing from this idea that language cannot be known objectively precisely because it is always already a kind of know-how, the analytic of finitude attempts to reappropriate the whole of history by showing that man always already has a history precisely in so far as his social practices enable him to organize all events in his own culture, historically. And more generally still, it turns out that man's very ability to understand himself and objects, by making projects on the basis of what is given, has a three-fold structure which corresponds to the past, present, and future. Thus man's know-how opens up a temporal field in which time and history become possible. It is in him that things (those same things that hang over him) find their beginning: rather than a cut, made at some given moment in duration, he is the opening from which time in general can be reconstituted, duration can flow and things, at the appropriate moment, can make their appearance" (OT 332). In *Being and Time*, which is the culminating example of this strategy, Heidegger argues in detail that the origin or source of temporality can only be understood by understanding the structure of authentic Dasein (Dasein is roughly equivalent to human being).

As one would expect, given the logic of the analytic of finitude, Heidegger is finally forced to the conclusion that man is condemned to the fruitless project of attempting to get clear about the origin which in this case amounts to trying to name being and thus drag the clearing into the open. Indeed, early Heidegger comes to hold that this ontological error is definitive of man. "Man errs. Man does not merely stray into errancy. He is always in errancy" (BW 135). The inevitable forgetting of the inevitable hiddenness of

being, correlative with the attempt to get clear about man's finitude, leads, according to Heidegger, to man essentially wandering in distress. "Dasein is a turning in need." (BW 137).

According to Heidegger to understand his own meaning man must grasp his origin, and yet it necessarily escapes him.

James F.T. Bugental's view of man has been obtained from his book, the search for Authenticity. With the analysis of this book one can form a summarized version of his view.

..... We do not know very much yet about what it means to be a human being. We do not appreciate in any depth what the potentials of human imagination, creativity, and variation may be. We are more governed by superstition than fact, more limited by tradition than recognition, more inhibited by our own fears than by external constraints in exploring the whole world of our being. I believe we have made but the barest beginning on exploring this new hemisphere, this human frontier. 73

In the more than two decades since world war II began, educated thinking in America about man and his condition has undergone tremendous changes. Twenty-five years ago, psychology, psychiatry, psychotherapy, and related disciplines were barely emerging into a wholistic conception of the human being. By and large the dominant influences in these fields were reductionistic, mechanistic and part-function centered. In the intervening time, these influences seem to him to have reached and passed their floodtides. The orientation is, to be sure, still very much employed and productive, but a never, more inclusive perspective on the human experience is growing rapidly and appears to be the ascendant one. This emerging Orientation has been called variously, "the third force" in psychology (after psychoanalysis and behaviourism) "neo-phenomenology", and "humanistic psychology", 74

Man, as Man, supercedes the sum of his parts ; When we speak of "Man" in humanistic psychology, we do so with the intent of characterizing a person rather than an "organism". Humanistic psychology is concerned with man at his most human or, to say it differently with that which most distinguishes man as a unique species.

Our first postulate states the keystone position that man must be recognized as something other than an additive product of various part-functions. Part-function knowledge is important scientific knowledge, but it is not knowledge of man as man. It is knowledge of the functioning of parts of an organism.

Man has his Being in a human context :

We postulate second that the unique nature of man is expressed through his always being in relationship with his fellows. Humanistic psychology is always concerned with man in his interpersonal potential. This is not to say that humanistic psychology may not deal with such issues as man's aloneness, but it will be evident that even in so designating it, "aloneness", we are speaking of man in his human context. The psychology of part-functions is a psychology that mechanically and incompletely handles this relatedness (actual or potential) of the human experience.

Man is Aware :

A central fact of human experience is that man is aware. Awareness is postulated to be continuous and at many levels. By so viewing it, we recognize that all aspects of his experience are not equally available to man but that, whatever the degree of consciousness, awareness is an essential part of man's being. The continuous nature of awareness is deemed essential to an understanding of human experience. Man does not move from discrete episode to discrete episode, a fact overlooked by experiments of the behaviouristic

orientation when they treat their subjects as though they had no prior awareness before coming into the experimental situation. Our postulation also provides for unconsciousness as a level of awareness of which there is not direct apprehension but in which awareness is nevertheless present.....

Man has choice :

There is no desire here to resume the hoary debate regarding free will versus determinism. Phenomenologically, choice is a given of experience. As man is aware, aware that his choices make a difference in the flow of his awareness, that he is not a bystander but a participant in experience. From this fact flows man's potential to transcend his creatureliness which is also to say that from this postulation we derive man's capability of change.

Man is intentional :

In his choices, man demonstrates his intent. This does not mean "striving", but it does mean orientation. Man intends through having purpose, through valuing, and through creating and recognizing meaning. Man's intentionality is the basis on which he builds his identity, and it distinguishes him from other species.

The characteristics of man's intentionality need to be specified : man intends both conservation and change. Mechanistic views of man frequently deal only with drive - reduction and homeostatic conceptions. Humanistic psychology recognizes that man seeks rest but concurrently seeks variety and disequilibrium. Thus we may say that man intends multiply, complexity, and even paradoxically. 75

I will postulate that the primary value in human life is to live in accord with (indeed, as a part of) the way things really are. Of course, that is a

hazardous thing to say, for who can claim to know how things really are ? The answer is, nobody and everybody. Nobody can prove he knows for sure, and everybody acts on the assumption that he knows. Probably, almost surely there is no one "way things really are", there are only various ways of seeing our situation.....

Now, just as I have postulated a primary value, I will point to a primary human process : awareness. Through awareness we discover ourselves and our world. Through awareness we can estimate our relation to world. It seems to me useful to think of that relationship as having these four characteristics :

We are limited in our awareness of ourselves and of world. We can act in ways that affect our awareness of ourselves and of world.

We have choice about which actions to take and not to take while each of us is in one sense alone, in another we are all related.

Throughout the whole of this thesis the fundamental concern is the authenticity of being. The distortions of being that give rise to the need for psychotherapy and inauthenticities. The celebrations of being that ontogenic therapy seeks to facilitate are the products of authenticity. The influence that makes the change possible is the response of awareness to the authentic in life. 76

A person is authentic in that degree to which his being in the world is unqualifiedly in accord with the givenness of his own nature and of the world. Authenticity is the primary good or value of the existential viewpoint.

The value of authenticity is postulated rather than argued..... when our being-in-the-world is in accord with the nature of ourselves in the world we are authentic. Authenticity is the term he has used to characterize both an

hypothesized ultimate state of at-oneness with the cosmos and the immense continuum leading toward that ultimate ideal. 77

Authenticity is a term used to characterize a way of being in the world in which one's being is in harmony with the being of the world itself. To say it differently, we are authentic to that degree to which we are at one with the whole of being (world); we are inauthentic to the extent that we are in conflict with the givenness of being. Clearly, I am here seeking to characterize an ideal or ultimate condition of authenticity with the recognition that we are always somewhat less than fully authentic. Also implicit in my description of authenticity, and of much more conceptual significance, is the recognition that authenticity amounts to the resolution of the subject-object split, the self-world dichotomy. As one approaches the stage of letting go to the suchness of Being without striving against it, one is attaining to full authenticity. 78

Fundamental to all else in the human experience is awareness. At least phenomenologically, world arises out of human awareness. It grows and evolves with experience. Learning importantly affects what one may become aware of and what will escape awareness. Emotional needs have similar effects. 79

Awareness discloses to each person (a) that he is finite, (b) that he has the potential to take action, (c) that he has some choice of what action he will take, and (d) that he is at once separate from, yet related to, his fellows. From these flow, respectively, the existential anxieties (a) of fate and death, (b) of guilt and condemnation, (c) of meaninglessness and emptiness, and (d) of loneliness and isolation. 80

It is awareness that fully confronts the existential anxieties of being and affirms its own being by incorporating those anxieties while yet avoiding their distortion. Man lives in contingency. He can and does take action that affects

his awareness and experience. He takes such action without ultimate guide posts of universal values or built-in instincts. And man is in constant relation with his fellows while yet being separate from them.

Of course, man does not ever fully accept the givens and their attendant anxieties. Instead he feels compelled at times to deny some parts of his condition and to try to nullify their effects. When he does so, he distorts his situation and becomes prey to neurotic anxiety and inauthenticity. 81

What are the attributes of being authentic ?

(1) Being as fully aware as I can be at the moment.

(2) Choosing what possibility I will invest with my life, with actuality, at the moment.

(3) Taking responsibility for the choice I have made while yet recognizing the imperfection of my awareness and the fact that my choice gave this alternative actuality and not some other.

Recognizing therein that tragedy is always potential and that neither my limitations of awareness, nor my good intentions, nor my suffering, nor my virtue, nor any other extrinsic circumstances, can change that fact. 82

What is evident when we step back from our preconceptions of habit and language is that the business of being a person, a human being, is enormously complex and endlessly varied. Most of us were taught much more about how to manipulate certain relatively infrequently used mathematical functions than about how to make certain crucial life decisions. 83

Man finds himself in "a world he never made," a world of apparently infinite possibility. In this world, man is constantly confronted with choices for which he must always be less than adequately prepared. Thus man is constantly faced with uncertainty, with contingency, with the possibility that his choices may fail to bring him the results he intends. That failure may range

from the simplest disappointment to a fatal misstep, from being late to a pleasant evenings recreation to being killed as he walks across his normally quiet, residential street.

This contingent plight is the constantly present and always overriding fact of our existence..... 84

Man finds himself thrown into a world of infinite possibilities where each moment is a choice point, each act gives life (actuality) to some possibilities and condemns others to oblivion. For each such choice branch unimaginable consequences. It is this very unimaginable quality that is at the base of man's living in contingency. Contingency here means that any act has an infinite array of possible outcomes and man can at any point recognize only some finite part of this infinite array. Man organizes his choices, his adaptations in terms of his estimation of the possibility of various outcomes and tries in the process to increase his chances of actualizing that which he wants in his life, while diminishing the probabilities of that which he does not want. The impossibility of assuring the outcome of one's actions, the consequences of one's choices, means that always there exists the possibility of tragedy ensuing from any choice which one makes. This is a possibility against which we can never be completely ensured. Tragedy, then resides in man's nature. Tragedy resides in the fact that we can never know enough to protect ourselves and those welfare we cherish against the unfortunate consequences of our own conscious and unconscious choices and actions. 85

Awareness in an evolving phenomenon..... Awareness grows. It is not a static given quantum..... it is an evolutionary sequence - for the race and for the individual. 86

Actualization is the name he is suggesting for a way of being in one's life in which there is greater realization upon the potentials of human existence than is usual, at least in our culture. 87

Authentic living is characterized by the dropping away of happiness as a goal in itself. The actualizing person is busy with the concerns to which he has chosen to commit his living and seldom stops to assess his happiness. Very often, of course, it will be apparent that he is happy person - although by no means is this always so - but it seems to be only the neurotic and the unhappy that expend their concern explicitly and directly on their happiness. The impression is inescapable that happiness is a state that is pushed away by the hand that would grasp it but that tends to accompany the person who is alive to his own being. 88

The authentic person seems to have a perspective on life which enables him to take satisfaction in the very fabric of being....

The person who is actualizing his own being seems to have a style to his living, a certain artistic quality. Often this quality is not externally obvious, but to intimate it is apparent. 89

The wholeness of experience is discovered on a broader scale's a recognition of the essential humanness of those who formerly seemed so different or so hostile, an empathy with the human experience of people in general, a feeling for one's own participation in the general and of the universal human outlook being present in oneself. 90

Except for its immense importance, this over-coming of the subject - object split might be subsumed under the recognition of the wholeness of experience. It is certainly a part of that recognition. Discovery of one's essential rootedness in all mankind gives a sense of being uniquely oneself while yet related to all others. World no longer seems out there and in

opposition; rather the boundary between I and world is experienced as fluid and changing with one's awareness and experience. Similarly, one no longer feels the split within himself. 91

Centeredness :

This is Rollo May's term to express an awareness of being in one's own life. It is expressive of the direct intuition of being which replaces self-consciousness when that handicapping sort of awareness is surmounted. The centered person (not self-centered) is the person who is actualizing his being with aware choice. He recognizes the possibilities open to him, the contingencies that are within his ken the responsibility of commitment, and he chooses knowingly.

Centeredness is the positive aspect of the same process I have characterized as the freeing of the I from the false equation with the Me. As this handicapping linkage is dissolved, the person becomes centered in his being in the moment of actuality and leave behind the diffuse concern with the past or fruitless apprehensions of the future that characterise the inauthentic. Actualization occurs only in the moment. Now Centeredness is the active core of actualization. 92

Transcendence is an hypothesized point of full authenticity of being in which the person would emerge into oneness with the All. There is no nonmystical language really available for describing this concept. By its very nature it partakes of mystery or mysticism - it is unknown to our usual understanding. Transcendences implies the complete confronting and incorporating of existential anxiety in all its forms. It includes, by definition, the overcoming of the subject-object split both within the individual and between the person and his world. Transcendence is complete awareness and

full feelingful assent. We choose to include the concept of transcendence in our thinking because it is essential to put into perspective the other forms of ontologic freedom, emancipation and actualization. When these are set against the background of transcendence they may be seen as the significant but incomplete forms of being that they are. This is by no means to devalue the meaningfulness of emancipation and actualization. Each represents a truer affirmation of life than most of us now know. But transcendence provides the further value of opening our awareness to the true immensity of our potential.⁹³

The basic fact of existence is existence. The basic significance of existence is the potentiality of being. The basic experience of existence is awareness. This much is the frame work within which I write; all that I say here after is derived from the inter course of awareness with existence, is the creation of our being from the is-ness of existence. Existence is, period One can say no more of existence as existence. The meaning and descriptions we write are neither purely discoveries about the givenness of existence nor yet are they purely our inventions imposed on existence. They are the outcomes of our being and of our being aware as a part of existence.⁹⁴

When man encounters the givens of his existence he experiences existential anxiety. How man responds to that anxiety - whether with dread or with courage - tells the story of his non-being or his being. The crossroads of life, existentially speaking, lie at the point of the confrontation of existential anxiety. ⁹⁵

It (the core dynamic sequence through which the person comes to experience actualization or blockage of his existential needs) may be read schematically as follows : the existential givens of our being, once recognized, occasion deep feelings of existential anxiety. That anxiety is natural to our

being, but it may seem too overwhelming at times - Genuine - confrontation of existential anxiety means taking into our very awareness of ourselves certain attributes of being in the world that may seem more than we can sustain. In such instances we may try to avoid being overwhelmed by distorting the nature of the givens of existence. When we do so, we experience dread and the feelings of neurotic anxiety. If, on the other hand, we confront existential anxiety authentically and take into our experience of ourselves the aspects of being that seem so threatening, we are making the courageous response and are freed for authentic being. Only when we are authentic in our being can we truly satisfy our basic existential needs. 96

The Core Dynamic Sequence : 97

I discover world through awareness. I am in the world. I am.....FINITE.....ABLE TO ACT.....ABLE TO CHOOSE..... SEPARATE. These are the Existential givens.

Because I am so, I find I am subject to.....FATE..... GUILTEMPTINESS..... LONELINESS.

These are the forms of existential anxiety.

I cannot escape existential anxiety. I can confront it. To confront it means to incorporate into my being-in-the-world....CONTINGENCE..... RESPONSIBILITY..... AUTONOMY.....APARTNESS.

These are the existential confrontations.

If I find these too devastating to accept, I may seek to avoid existential anxiety. Thus I will fall prey to feelings of..... POWERLESSNESS.....BLAME.....ABSURDITY..... ESTRANGEMENT.

These are the forms of neurotic anxiety or dread.

On the other hand, if I do confront and incorporate existential anxiety, I am able to realize my being in the world through..... FAITH..... COMMITMENT.....CREATIVITY..... LOVE.

These are the forms of authentic being or courage.

If I am authentic in my being in the world, then I am able to realize..... ROOTEDNESS.....IDENTITY..... MEANINGFULNESS,..... RELATEDNESS.

These are the existential needs.

The four forms of existential anxiety that have just been detailed are the cornered stones of the conception here being set forth. Each person must deal with each of these forms of anxiety in some fashion. Obviously, the manner in which one handles his experience of such anxiety will vary tremendously from person to person. However, as we have seen, there are two general ways of responding to the experience of existential anxiety. These are response of dread and the response of courage.

The response of dread is that which gives rise to neurotic anxiety. When the recognition of existential anxiety seems overwhelming and the person cannot support incorporation of that anxiety, then he must engage in maneuvers designed to distort the reality of his awareness of being. His experience of existential anxiety is transmuted, as it were, into dread, which in turn produces various forms of neurotic anxiety.

When a person confronts existential anxiety and accepts it and incorporates it within his being, we speak of his response being that of courage.

The response of dread is that which gives rise to neurotic anxiety. When the recognition of existential anxiety seems overwhelming and the person cannot support incorporation of that anxiety, then he must engage in

maneuvers designed to distort the reality of his awareness of being. His experience of existential anxiety is transmuted, as it were, into dread, which in turn produces various forms of neurotic anxiety.

When a person confronts existential anxiety and accepts it and incorporates it within his being, we speak of his response being that of courage. In such instances the forms his response takes are fulfilling of his existential needs. Saying it differently, we are postulating that to recognize that one lives in anxiety is a part of the response to that anxiety which makes it possible for one then to recognize his basic needs as a human being and set about fulfilling them. 98

Poised in the apparent chaos of raw contingency, finding no solid footing on any side, discovering all "realities" to be only probabilities, if I am aware and am aware only of contingency, then - quite literally- I will die or go mad. It does not seem likely that such a confrontation is endurable.

The anxiety attendant upon contingency, the existential anxiety of fate and death, may be incorporated and a rootedness achieved that makes for greater authenticity in being. How is this possible? The answer is what I have chosen to term "the response of faith".

Faith, as I use it here, is intrinsic faith. It is objectless faith. It is the I affirming its own being. It is a confronting of the infinitude of contingency with the declaration "I am I. This is my starting place. This is my certainty, though there be no other." 99

I find it useful to think about the process of living as that of a creative, artistic enterprise, not unlike the painting of a public picture. If we use this analogy in the present instance, we will see readily that the artist who hesitated to put an end to his picture, who created a masterpiece but then added canvas to canvas again and again and kept painting, would in time

destroy his picture. Saying it differently, a part of artistry is knowing when to stop. Part of artistry is knowing what to include and what not to include. Part of artistry is knowing where the frame goes around the picture, where the edge of the canvas is. Those who engage in photography will know how important it is in composing adequate picture to frame them properly, to know the limits, to set the limits by choice and not by chance. So it is with life, there are many opportunities for limits that can give artistry, grace, dignity, meaning to our living. If we are authentically in our lives, we use the opportunity to set limits esthetically and vitally. Of course many of us - and I certainly include myself among these - are not so creative. We are fearful of limits because we feel if we do not take all we can now, we may never get any more. In this fashion we can spoil so much that could be rich in our lives. 100

The exercise of my potential to take action affects what will be present in the stream of my awareness. What is in the stream of my awareness makes an emotional difference to me. The experiencing of this emotional difference we call responsibility. Responsibility is the subjective correlate of the existential given of the ability to take action. Thus it leads to the existential anxiety of guilt and condemnation. I am not indifferent but concerned about my actions and their consequences. I recognize that, my doing and not doing are importantly involved and that I must take the responsibility for such doing and not doing. Guilt and condemnation certainly evoke anxiety, but they are the expression too of the fact that I live my life rather than being lived by it. In my acceptance of the anxiety of guilt and condemnation I affirm my identity. 101

Commitment is, in paraphrase, the statement, "this I am; this I believe; this I do. I am the being, the believing, the doing." Commitment is not the place in which one stands. The tenet one believes or the act one does, however commitment is not a subscription to something external to the

person's own life no matter how worthwhile. Commitment, as we are using the term here, is not to world peace, not to the prevention of juvenile delinquency, nor to mental health, nor even to one's own future as such. Commitment is an awareness, an attitude, a clear and feelingful recognition of being fully present in the moment, making the choices of the moment, and standing by the consequences of those choices whether anticipated or not. Commitment is "playing for keeps" rather than vainly pleading for "slips (to) go over," as do small children in their games of marbles.

Authentic commitment is possible to the person who genuinely accepts responsibility in his life. 102

The experience of being created, being a creature, by itself would lead to the anxiety of absurdity and meaninglessness were it not that the experience of choice opens the possibility of transcending this creaturely status. As man exercises choice he takes part in creation and overcomes his object status to become subject in his world of experience. As subject and creator man creates meaningfulness this is a supreme achievement of man's choice : the creation of meaning where there was the threat of emptiness and the potential of absurdity.

World we discover, has few constraints. Perhaps only the four we have called the existential givens plus the physical limitations of gravity and hunger and such. World is so open. For some that openness is the terrorizing lack of meaning and control which makes it a rainy free-way without lines. For others it is the openness of a fresh canvas awaiting the artists ' brush, a keyboard potent with music, a vast mountain range to be explored. The difference seems to be that the latter group responds to the emptiness with creativity, the former see only absurdity. 103

Creativity means not simply the public creations of artists and artisans. It means more importantly, the inner creativity that is potential to each person. It refers not to the product created but to the act of creation. To the extent that one makes his choices out of his own being and with faith in being, to that extent is he creative whether or not that which he produces has been made a million times over. To the extent one patterns his choices on that which is external to his own being, one is not truly creative although the product is hailed as unique by all who see it. 104

Man seeks relationship with man as a way of dealing with the fact of apartness and giving expression to his being a part of life. Separateness in itself has no emotional tone, but when experienced only in its lonely aspects it leads to the experience of loneliness. Relatedness is the concurrent need of man to give an answer to his condition of separateness. 105

"Love, the answer to the problem of human existence, is the title of a section in Erich Fromm's The Art of Loving. While I might take issue with calling human existence a "problem", I do not debate the central significance of love.

Existential love is an expression of one's whole being in relation to all Being. Existential love is - in its most transcendent form - participation in all Being, participation so complete that the subject-object dichotomy is obliterated and the essential unity of the All is revealed. Clearly, in such transcendent love, faith, commitment, and creativity are ultimately expressed. In speaking of transcendent love we are characterizing an ultimate realization of the human potential, a point at which apartness is absorbed into wholeness. Most of our concern, however, is with love as a response to the experience of apartness, as a confronting and incorporating of the existential anxiety of loneliness and isolation. This brings our attention to a realm of more familiar experience.

Here we may speak of actualizing love. Actualizing love is the "I-Thou" relation which Dubeur has characterized so well. It is the affirmation of one's own being in relation to another. Perhaps, in the terms we have been employing, it is the relation of I-process to I-process. 106

If we try to summarise Bugental's view of man we find that Bugental has given primary emphasis to the following dimensions (1) Man is self-determining (2) Man is conscious/aware. The areas of secondary emphasis were Man is accepting of nonhedonic emotions, Man is a communicative being, Man is self-actualizing.

Like Bonner, Bugental gives primary emphasis to the concept that man is self-determining. At each moment, man is faced with choice, and being endowed with the freedom to choose he is responsible for both the personal and social consequences of his choices.

Unlike Bonner, however, Bugental gives primary emphasis to the fact that man is conscious/aware. He sees feelingful awareness as the central process of man's nature and being as fully aware as possible the prime requisite for authentically confronting the basic existential anxieties and being self-actualizing in his choices rather than self-destructive. For Bugental, man is guided in his choices toward authenticity (this may also be termed "genuine ontologic freedom" or "full self-actualization") by his feelingful awareness and not by any built-in instincts. For Bonner, man makes his progress toward full self-actualization as a result of his natural yet socio-culturally influenced pro action. In the content analysis, Bugental's concept of authenticity which incorporates the idea of full self-actualization, has been coded as aware plus self-determining plus ontologically and socially responsible. The former two dimensions each received primary emphasis in the final count. Thus, Bugental has actually given primary emphasis to the dimension 'man is self-actualizing'

although the percentage analysis table reveals only secondary emphasis for it. So Bugental has given primary emphasis to the concept that man is a self-actualizing being.

According to Erich Fromm modern man feels uneasy and more and more bewildered. He works and strives, but he is dimly aware of a sense of futility with regard to his activities while his power over matter grows, he feels powerless in his individual life and in society. While creating new and better means for mastering nature, he has become enmeshed in a network of those means and has lost the vision of the end which alone gives them significance - man himself. While becoming the master of nature, he has become the slave of the machine which his own hands built. With all his knowledge about matter, he is ignorant with regard to the most important and fundamental questions of human existence: what man is, how he ought to live, and how the tremendous energies within can be released and used productively. 107

Humanistic ethics is anthropocentric, not of course, in the sense that man is the center of the universe but in the sense that other judgements and even perceptions, are rooted in the peculiarities of his existence and are meaningful only with reference to it; man, indeed, is the "measure of all things." The humanistic position is that there is nothing higher and nothing more dignified than human existence. 108

It is one of the characteristics of human nature that man finds his fulfillment and happiness only in relatedness to and solidity with his fellowmen. However, to love one's neighbor is not a phenomenon transcending man, it is something inherent in and radiating from him. Love is not a higher power which descends upon man nor a duty which is imposed upon him, it is his own power by which he relates himself to the world and makes it truly his. 109

Living itself is an art - in fact, the most important and at the same time the most difficult and complex art to be practiced by man. Its object is not this or that specialized performance, but the performance of living, the process of developing into that which one is potentially. In the art of living, man is both the artist and the object of his art; he is the sculptor and marble, the physician and the patient. 110

If ethics constitutes the body of norms for achieving excellence in performing the art of living, its most general principles must follow from the nature of life in general and of human existence in particular. In most general terms, the nature of all life is to preserve and affirm its own existence. All organisms have an inherent tendency to preserve their existence. It is from this fact that psychologists have postulated an "instinct" of self preservation. The first "duty" of an organism is to be alive.

"To be alive" is a dynamic, not a static, concept. Existence and the unfolding of the specific powers of an organism are one and the same. All organisms have an inherent tendency to actualize their specific potentialities. The aim of man's life, therefore, is to be understood as the unfolding of his powers according to the laws of his nature.

Man, however, does not exist "in general". While sharing the core of human qualities with all members of his species, he is always an individual, a unique entity different from everybody else. He differs by his particular blending of character, temperament, talents, dispositions, just as he differs at his fingertips. He can affirm his human potentialities only by realizing his individuality. The duty to be alive is the same as the duty to become oneself, to develop into the individual one potentially is.

To sum up, good in humanistic ethics is the affirmation of life, the unfolding of man's powers. Virtue is responsibility toward his own existence.

Evil constitutes the crippling of man's powers, vice is irresponsibility toward himself. These are the first principles of an objectivistic humanistic ethics. 111

Fromm then comments on human nature and character :

One individual represents the human race. He is one specific example of the human species. He is "he" and he is "all" , he is an individual with his peculiarities and in this sense unique, and at the same time he is representative of all characteristics of the human race. His individual personality is determined by the peculiarities of human existence common to all men. Hence the discussion of the human situation must precede that of personality. 112

The first element which differentiates human from animal existence is a negative one : the relative absence in man of instinctive regulation in the process of adaptation to the surrounding world.

The emergence of man can be defined as occurring at the point in the process of evolution where instinctive adaptation has reached its minimum. But he emerges with new qualities which differentiate him from the animal : his awareness of himself as a separate entity, his ability to remember the past, to visualize the future, and to denote objects and acts by symbols, his reason to conceive and understand the world; and his imagination through which he reaches far beyond the range of his senses. Man is the most helpless of all animals, but this very biological weakness is the basis for his strength, the prime cause for the development of his specifically human qualities. 113

Self-awareness, reason, and imagination have disrupted the "harmony" which characterizes animal existence. Their emergence has made man into an anomaly, into the freak of the universe. He is part of nature, subject to her physical laws and unable to change them, yet he transcends the rest of nature. He is set apart while being, a part he is homeless, yet chained to the home he shares with all creatures. Cast into the world at an accidental place

and time, he is forced out of it, again accidentally. Being aware of himself, he realizes his powerlessness and the limitations of his existence. He visualizes his own end : death. Never is he free from the dichotomy of his existence : he cannot rid himself of his mind, even if he should want to; he cannot rid himself of his body as long as he is alive - and his body makes him want to be alive.

Reason, man's blessing, is also his curse, it forces him to cope everlasting with the task of solving an insoluble dichotomy. Human existence is different in this respect from that of all other organisms, it is in a state of constant and unavoidable disequilibrium... Man is the only animal for whom his own existence is a problem which he has to solve and from which he cannot escape. He cannot go back to the prehuman state of harmony with nature; he must proceed to develop his reason until he becomes the master of nature and of himself.

The emergence of reason has created a dichotomy within man which forces him to strive everlasting for new solutions. The dynamism of his history is intrinsic to the existence of reason which causes him to develop and, through it, to create a world of his own in which he can feel at home with himself and his fellow men. Every stage he reaches leaves him discontented and perplexed, and this very perplexity urges him to move toward new solutions. There is no innate "drive for progress" in man; it is the contradiction in his existence that makes him proceed on the way he set out.

This split in man's nature leads to dichotomies which he calls existential because they are rooted in the very existence of man; they are contradictions which man cannot annul but to which he can react in various ways, relative to his character and his culture.

The most fundamental existential dichotomy is that between life and death. The fact that we have to die is unalterable for man. Man is aware of this fact, and this very awareness profoundly influences his life.

That man is mortal results in another dichotomy: while every human being is the bearer of all human potentialities, the short span of his life does not permit their full realization under even the most favourable circumstances..... Man's life, beginning and ending at one accidental point in the evolutionary process of the race, conflicts tragically with the individual's claim for the realization of all his potentialities. Of this contradiction between what he could realize and what he actually does realize he has, at least, a dim perception.

Man is alone and he is related at the same time. He is alone in as much as he is a unique entity, not identical with anyone else, and aware of his self as a separate entity. He must be alone when he has to judge or to make decisions solely by the power of his reason. And yet he cannot bear to be alone, to be unrelated to his fellowmen. His happiness depends on the solidarity he feels with his fellowmen, with past and future generations.

It is one of the peculiar qualities of the human mind that, when confronted with a contradiction, it cannot remain passive. It is set in motion with the aim of resolving the contradiction.

All human progress is due to this fact. 114.

Nicholas Rescher's book on Human Interests,¹¹⁵ Reflections on Philosophical Anthropology is a collection of rather general essays, clearly and often attractively written, on the human condition. They have titles such as 'what is a person?', 'Proverbial Wisdom,' 'Age and the stages, of Life', 'The Power of Ideals,' 'The Meaning of Life', and 'Rationality and Happiness'. In order to bring back such issues to the attention of philosophers, Rescher uses and discusses the work of Unamuno. His main theme is 'the ambiguous

position of reason on the guidance of human affairs', as both central to our nature and yet often out of place among the chaotic conditions of our life. He stresses both the uses and the limitations of rationality. On the whole he expounds Unamuno's view that 'For us humans, Reason is like a very difficult but indispensable mate - we cannot live without it and we cannot live with it.'

There is only one solution to his problem : to face the truth, to acknowledge his fundamental aloneness and solitude in a universe indifferent to his fate, to recognize that there is no power transcending him which can solve his problem for him. Man must accept the responsibility for himself and the fact that only by using his own powers can he give meaning to his life. But meaning does not imply certainty; indeed, the quest for certainty blocks the search for meaning. Uncertainty is the very condition to impel man to unfold his powers. If he faces the truth without panic he will recognize that there is no meaning to life except the meaning man gives his life by the unfolding of his powers, by living productively and that only constant vigilance, activity, and effort can keep us from failing in the one task that matters - the full development of our powers within the limitations set by the laws of our existence. Man will never cease to be perplexed, to wonder, and to raise new questions. Only if he recognizes the human situation, the dichotomies inherent in his existence and his capacity to unfold his powers, will he be able to succeed in his task : to be himself and to achieve happiness by the full realization of those faculties which are peculiarly his - of reason, love and productive work. 116

Fromm then proceeds to describe the productive character. Such a personality orientation, Fromm thinks is within the reach of every normal human being. Thus, he writes :

The "productive orientation" of personality refers to a fundamental attitude, a mode of relatedness in all realms of human experience. It covers mental, emotional, and sensory responses to others, to oneself, and to things. Productiveness is man's ability to use his powers and to realize the potentialities inherent in him. If we say he must use his powers we imply that he must be free and not dependent on someone who controls his powers. We imply, furthermore, that he is guided by reason, since he can make use of his powers only if he knows what they are, how to use them, and what to use them for. Productiveness means that he experiences himself as the embodiment of his powers and as the "actor", that he feels himself one with his powers and at the same time that they are not masked and alienated from him. 117

Productiveness is an attitude which every human being is capable of unless he is mentally and emotionally crippled. 118

While it is true that man's productiveness can create material things, works of art, and systems of thought, by far the most important object of productiveness is man himself. Birth is only one particular step in a continuum which begins with conception and ends with death. All that is between these two poles is a process of giving birth to one's potentialities, of bringing to life all that is potentially given in the two cells. But while physical growth proceeds by itself, if only the proper conditions are given, the process of birth on the mental plane, in contrast, does not occur automatically. It requires productive activity to give life to the emotional and intellectual potentialities of man, to give birth to his self. It is part of the tragedy of the human situation that the development of the self is never completed; even under the best conditions only part of man's potentialities is realized. Man always dies before he is fully born. 119

In conclusion, we note the following passage :

Man's task in life is to give birth to himself, to become what he potentially is.

He believes that man is the product of natural evolution; that he is part of nature and yet transcends it, being endowed with reason and self-awareness.

He believes that man's essence is as certainable. However, this essence is not a substance which characterizes man at all times through history. The essence of man consists in the above - mentioned contradiction inherent in his existence, and this contradiction forces him to react in order to find a solution. Man cannot remain neutral and passive toward this existential dichotomy. By the very fact of his being human, he is asked a question by life : how to overcome the split between himself and the world outside of him in order to arrive at the experience of unity and oneness with his fellow man and with nature. Man has to answer this question every moment of his life. Not only - or even primarily - with thoughts and words, but by his mode of being and acting.

He believes that there are a number of limited and ascertainable answers to this question of existence (the history of religion and philosophy is a catalogue of those answers); yet there are basically only two categories of answers. In one, man attempts to find again harmony with nature by regression to a prehuman form of existence, eliminating his specifically human qualities of reason and love. In the other, his goal is the full development of his human powers until he reaches a new harmony with his fellow man and with nature.

He believes that the first answer is bound to failure. It leads to death, destruction, suffering, and never to the full growth of man, never to harmony and strength. The second answer requires the elimination of greed and egocentricity, it demands discipline, will, and respect for those who can show the way. Yet, although this answer is the more difficult one, it is the only answer which is not doomed to failure. In fact, even before the final goal is reached, the activity and effort expended in approaching it has a unifying and integrating effect which intensifies man's vital energies.

He believes that Man's basic alternative is the choice between life and death. Every act implies this choice. Man is free to make it, but this freedom is a limited one. There are many favourable and unfavourable conditions which incline him - his psychological constitution, the condition of the specific society into which he was born, his family, teachers, and the friends he meets and chooses. It is man's task to enlarge the margin of freedom, to strengthen the conditions which are conducive to life as against those which are conducive to death. Life and death, as spoken here, are not the biological states, but states of being, of relating to the world. Life means constant change, constant birth. Death means cessation of growth, ossification, repetition. The unhappy fate of many is that they do not make the choice. They are neither alive nor dead. Life becomes a burden, an aimless enterprise, and busyness is the means to protect one from the torture of being in the land of shadows.

He believes that neither life nor history has an ultimate meaning which in turn imparts meaning to the life of the individual or justifies his suffering. Considering the contradictions and weakness which beset man's existence it is only too natural that he seeks for an absolute which gives him the illusion of certainty and relieves him from conflict, doubt and responsibility. Yet, no God, neither in theological, philosophical or historical garments saves, or condemns

man. Only man can find a goal for life and the means for the realisation of this goal. He cannot find a saving ultimate or absolute answer but he can strive for a degree of intensity, depth and clarity of experience which gives him the strength to live without illusions, and to be free.

He believes that no one can "save" his fellow man by making the choice for him. All that one man can do for another is to show him the alternatives truthfully and lovingly, yet without sentimentality or illusion. Confrontation with the true alternatives may awaken all the hidden energies in a person, and enable him to choose life as against death. If he cannot choose life, no one else can breathe life into him.

He believes, that there are two ways of arriving at the choice of the good. The first is that of duty and obedience to moral commands. This way can be effective, yet one must consider that in thousands of years only a minority have fulfilled even the requirements of the Ten commandments. Many more have committed crimes when they were presented to them as commands by those in authority. The other way is to develop a taste for and a sense of well-being in doing what is good or right. By taste for well-being, I do not mean pleasure in the Benthamian or Freudian sense. I refer to the sense of heightened aliveness in which I confirm my powers and my identity.

He believes that education means to acquaint the young with the best heritage of the human race. But while much of this heritage is expressed in words, it is effective only if these words become reality in the person of the teacher and in the practice and structure of society. Only the idea which has materialized in the flesh can influence man; the idea which remains a word only changes words.

He believes in the perfectibility of man. This perfectibility means that man can reach his goal, but it does not mean that he must reach it. If the

individual will not choose life and does not grow, he will by necessity become destructive, a living corpse. Evilness and self-loss are as real as are goodness and aliveness. They are the secondary potentialities of man if he chooses not to realize his primary potentialities.

He believes that only exceptionally is a man born as a saint or as a criminal. Most of us have dispositions for good and for evil, although the respective weight of these dispositions varies with individuals. Hence, our fate is largely determined by those influences which mold and form the given dispositions. The family is the most important influence. But the family itself is mainly an agent of society, the transmission belt for those values and norms which a society wants to impress on its members. Hence, the most important factor for the development of the individual is the structure and the values of the society into which he has been born.

He believes that society has both a furthering and an inhibiting functions. Only in co-operation with others, and in the process of work, does man develop his powers, only in the historical process does he create himself. But at the same time, most societies until now have served the aims of the few who wanted to use the many. Hence they had to use their power to smullify and intimidate the many(and thus, indirectly, themselves), to prevent them from developing all their powers : for this reason society has always conflicted with humanity, with the universal norms valid for every man. Only when society's aim will have become identical with the aims of humanity, will society cease to cripple man and to further evil. He believes that every man represents humanity. We are different as to intelligence health, talents. Yet we are all one. We are all saints and sinners, adults and children, and no one is anybody's superior or judge. We have all been awakened with the Buddha, we

have all been crucified with Christ, and we have all killed robbed with Genghis Khan, Stalin and Hitler.

He believes that man can visualize the experience of the whole universal man only by realizing his individuality and never by trying to reduce himself to an abstract, common denominator. Man's task in life is precisely the paradoxical one of realizing his individuality and at the same time transcending it and arriving at the experience of universality. Only the fully developed individual self can drop the ego

He believes that the one world which is emerging can come into existence only if a New Man comes into being - a man who has emerged from the archaic ties of blood and soil, and who feels himself to be the son of man, a citizen of the world whose loyalty is to the human race and to life, rather than to any exclusive part of it; a man who loves his country because he loves mankind and whose judgement is not warped by tribal loyalties.

He believes that man's growth is a process of continuous birth, of continuous awakening. We are usually half-asleep and only sufficiently awake to go about our business; but we are not awake enough to go about living, which is the only task that matters for a living being. The great leaders of the human race are those who have awakened man from his half - slumber. The great enemies of humanity are those who put it to sleep, and it does not matter whether their sleeping portion is the worship of God or that of the Golden calf.

He believes that the development of man in the last four thousand years of history is truly awe - inspiring. He has developed his reason to a point where he is solving the riddles of nature and has emancipated himself from the blind power of the natural forces. But at the very moment of his greatest triumph, when he is at the threshold of a new world, he has succumbed to the power of the very things and organizations he has created. He has invented a

new method of producing, and has made production and distribution his new idol. He worships the work of his hands and has reduced himself to being the servant of things. He uses the name of God, of freedom of humanity, of Socialism, in vain; he prides himself on his powers - the bombs and the machines - to cover up his human bankruptcy; he boasts of his power to destroy in order to hide his human impotence.

He believes that the only force that can save us from self destruction is reason ; the capacity to recognize the unreality of most of the ideas that man holds, and to penetrate to the reality veiled by the layers and layers of deception and ideologies; reason, not as a body of knowledge, but as a "kind of energy, a force which is fully comprehensible only in its agency and effects." a force whose "most important function consists in its power to bind and to dissolve." Violence and aims will not save us; Sanity and reason may.

He believes that reason cannot be effective unless man has hope and belief. Goethe was right when he said that the deepest distinction between various historical periods is that between belief and disbelief, and when he added that all epochs in which belief dominates are brilliant, uplifting, and fruitful while those in which disbelief dominates vanish because nobody cares to devote himself to the unfruitful. No doubt the thirteenth century, the renaissance, the Enlightenment, were ages of belief and hope. I am afraid that the western world in the twentieth century deceives itself about the fact that it has lost hope and belief. Truly, where there is no belief in man, the belief in machines will not save us from vanishing, on the contrary, this "belief" will only accelerate the end. Either the western world will be capable of creating a renaissance of humanism in which the fullest development of man's humanity, and not production and work, are the central issues - or the west will perish as many other great civilizations have.

He believes that to recognize the truth is not primarily a matter of intelligence, but a matter of character. The most important element is the courage to say no, to disobey the commands of power and of public opinion; to cease being asleep and to become human; to wake up and lose the sense of helplessness and futility. Eve and Prometheus are the two great rebels whose very "crimes" liberated mankind. But the capacity to say "no" meaningfully, implies the capacity to say "yes" meaningfully. The "yes" to God is the "no" to Ceasar; the "yes" to man is the "no" to all those who want to enslave, exploit, and stultify him.

He believes in freedom in man's right to be himself, to assert himself and to fight all those who try to prevent him from being himself. But freedom is more than the absence of violent oppression. It is more than "freedom from." It is "freedom to" - the freedom to become independent; the freedom to be much, rather than to have much, or to use things and people.

He believes that neither Western capitalism nor Soviet or Chinese Communism can solve the problem of the future. They both create bureaucracies which transform man into a thing. Man must bring the forces of nature and of society under his conscious and rational control; but not under the control of a bureaucracy which administers things and man, but under the control of the free and associated producers who administer things and subordinate them to man, who is the measure of all things. The alternative is not between "Capitalism" and "Communism" but between bureaucratism and humanism. Democratic, decentralizing socialism is the realization of those conditions which are necessary to make the unfolding of all man's powers the ultimate purpose.

He believes that one of the most disastrous mistakes in individual and social life consists in being caught in stereotyped alternatives of thinking.

"Better dead than red", "an alienated industrial civilization or individualistic pre-industrial society." "To rearm or to be helpless," are examples of such alternatives. There are always other and new possibilities which become apparent only when one has liberated oneself from the deathly grip of cliches, and when one permits the voice of humanity, and reason, to be heard. The principle of "the lesser evil" is the principle of despair. Most of the time it only lengthens the period until the greater evil wins out. To risk doing what is right and human, and have faith in the power of the voice of humanity and truth, is more realistic than the so-called realism of opportunism.

He believes that man must get rid of illusions that enslave and paralyze him; that he must become aware of the reality inside and outside of him in order to create a world which needs no illusions. Freedom and independence can be achieved only when the chains of illusion are broken.

He believes that today there is only one main concern : the question of war and peace. Man is likely to destroy all life on earth, or to destroy civilized life and the values among those that remain, and to build a barbaric, totalitarian organization which will rule what is left of mankind. To wake up to this danger, to look through the double talk on all sides which is used to prevent men from seeing the abyss toward which they are moving is the obligation, the one moral and intellectual command which man must respect today. If he does not, we all will be doomed.

If we should all perish in the nuclear holocaust, it will not be because man was not capable of becoming human, or that he was inherently evil; it would be because the consensus of stupidity has prevented him from seeing reality and acting upon the truth.

He believes in the perfectibility of man, but I doubt whether he will achieve this goal, unless he awakens soon.

To conclude in his view of man, Fromm has given primary emphasis to the following dimensions : (1) Man is self-actualizing (2) Man is rational (3) Man is self-affirming. The areas of secondary emphasis were (1) Man is conscious /aware (2) Man is self-determining. The remaining dimensions received tertiary emphasis. Like Bonner and Bugental, Fromm also considers man's full self-actualization or the unfolding and utilization of his powers and energies in accordance with the laws of his specific, idiosyncratic nature, to be the aim and meaning of his existence. He sees man as having this one overriding need or value namely, to make himself into a productive personality, into a person who is able to love both himself and his fellow man.

However, whereas Bonner stressed man's proaction, and Bugental man's feelingful awareness, Fromm emphasizes man's powers of reason as the guide for his choices in his quest for full self-actualization.

Abraham H. Maslow's view of man has been obtained from his book, Motivation and Personality, in his book the Humanistic view of man Jaideep Singh has said 'If I had, had to condense the thesis of this book into a single sentence. I would have said that, in addition to what the psychologies of the time had to say about human nature, man also had a higher nature and that this was instinctoid, ie., part of his essence. And if I could have had a second sentences, I would have stressed the profoundly holistic nature of human nature in contradiction to the analytic - dissecting - atomic - Newtonian approach of the behaviourisms and of Freudian psychoanalysis.¹²⁰

While it is still necessary to be very cautious about affirming the preconditions for "goodness" in human nature, it is already possible to reject firmly the despairing belief that human nature is ultimately and basically depraved and evil. Such a belief is no longer a matter of taste merely. It can

now be maintained only by a determined blindness and ignorance, by a refusal to consider the facts. 121

The great advances of the last decade or so in the science of genetics has forced us to assign somewhat more determining power to the genes than we did fifteen years ago. 122

Maslow then looks at the nature of man from the point of view of what motivates him.

Our first proposition states that the individual is an integrated, organized whole. This theoretical statement is usually accepted piously enough by psychologists, who then often proceed calmly to ignore it in their actual experiments. That it is an experimental reality as well as a theoretical one must be realized before sound experimentation and sound motivation theory are possible. In motivation theory this proposition means many specific things. For instance, it means the whole individual is motivated rather than just a part of him. In good theory there is no such entity as a need of the stomach or mouth or a genital need. There is only a need of the individual. It is John Smith who wants food, not John Smith's stomach. Furthermore satisfaction comes to the whole individual and not just to a part of him. Food satisfies John Smith's hunger and not his stomach's hunger.

Dealing with John Smith's hunger as a function merely of his gastrointestinal tract has made experimenters neglect the fact that when an individual is hungry he changes not only in his gastrointestinal function, but in many, perhaps even in most other functions of which he is capable. His perceptions change (he will perceive food more readily than he will at other times). The content of his thinking changes (he is more apt to think of getting food than of solving an algebraic problem). And this list can be extended to almost every other faculty, capacity, or function, both physiological and

psychic. In other words, when John Smith is hungry, he is hungry all over; he is different as an individual from what he is at other times. 123

Man is a wanting animal and rarely reaches state of complete satisfaction except for a short time. As one desire is satisfied, another pops up to take its place. When this is satisfied, still another comes into the foreground, etc. It is a characteristic of the human being throughout his whole life that he is practically always desiring something. 124

Dewey and Thorndike have stressed one important aspect of motivation that has been completely neglected by most psychologists, namely possibility. On the whole we yearn consciously for that which might conceivably be actually attained. That is to say that we are much more realistic about wishing than the psychoanalysts may allow, absorbed as they are with unconscious wishes.

As a man's income increases he finds himself actively wishing for and striving for things that he never dreamed of a few years before. The average American yearns for automobiles, refrigerators and television sets because they are real possibilities ; he does not yearn for Yachts or planes because they are in fact not within the reach of the average American. It is quite probable that he does not long for them unconsciously either.

Attention to this factor of possibility of attainment is crucial in motivations between various classes and castes within our own population and between it and other poorer countries and cultures. 125

The needs that are usually taken as the starting point for motivation theory are the so-called physiological drives. 126

Undoubtedly these physiological needs are the most prepotent of all needs. What this means specifically is that in the human being who is missing everything in life in an extreme fashion, it is most likely that the major

motivation would be the physiological needs rather than any others. A person who is lacking food, safety, love, and esteem would most probably hunger for food more strongly than for anything else.

If all the needs are unsatisfied, and the organism is then dominated by the physiological, needs all other needs may become simply nonexistent or be pushed into the background. It is then fair to characterize the whole organism by saying simply that it is hungry, for consciousness is almost completely preempted by hunger. 127

But what happens to man's desires when there is plenty of bread and when his belly is chronically filled ?

At once other (and higher) needs emerge and these, rather than physiological hungers, dominate the organism. And when these in turn are satisfied, again new (and still higher) needs emerge and so on. This is what we mean by saying that the basic human needs are organized into a hierarchy of relative prepotency.

A want that is satisfied is no longer a want. The organism is dominated and its behaviour organized only by unsatisfied needs. 128

If the physiological needs are relatively well gratified, there then emerges a new set of needs, which we may characterize roughly as the safety needs (security; stability; dependency; protection freedom from fear, from order, law, limits; strength in the protector; and so on).. 129

If both the physiological and the safety needs are fairly well gratified there will emerge the love and affection and belongingness needs, and the whole cycle already described will repeat itself with this new center. 130

All people in our society (with a few pathological exceptions) have a need or desire for a stable, firmly based, usually high evaluation of themselves, for self-respect, or self-esteem, and for the esteem of others. These needs

may therefore be for strength, for achievement for adequacy, for mastery and competence, for confidence in the face of the world, and for independence and freedom. Second, we have what we may call the desire for reputation or prestige (defining it as respect or esteem from other people), status, fame and glory, dominance, recognition, attention, importance dignity, or appreciation. These needs have been relatively stressed by Alfred Adler and his followers, and have been relatively neglected by Freud. More and more today, however, there is appearing widespread appreciation of their central importance.... 131

Even if all these needs are satisfied, we may still often (if not always) except that a new discontent and restlessness will soon develop, unless the individual is doing what he, individually, is fitted for. A musician must make music, an artist must paint, a poet must write, if he is to be ultimately at peace with himself. What a man can be, he must be. He must be true to his own nature. This need we may call self-actualization....

This term, first coined by Kurt Goldstein, is being used in this book in a much more specific and limited fashion. It refers to man's desire for self-fulfillment, namely to the tendency for him to become actualized in what he is potentially. This tendency may be phrased as the desire to become more and more what one idiosyncratically is, to become everything that one is capable of becoming.

The specific form that these needs will take will of course vary greatly from person to person. In one individual it may take the form of the desire to be an ideal mother, in another it may be expressed athletically and in still another it may be expressed in painting pictures or in inventions. At this level, individual differences are greatest.

The clear emergence of these needs usually rests upon some prior satisfaction of the physiological, safety, love, and esteem needs. 132

The remaining portion of this summarized version of Maslow's view of man is based on his study of self-actualizing people. The subjects were selected from among personal acquaintances and friends, and among public and historical figures. Maslow explains the meaning of self-actualization.

..... The positive criterion for selection was positive evidence of self-actualization (SA), as yet a difficult syndrome to describe accurately. For the purpose of this discussion, it may be loosely described as the full use, and exploitation of talents, capacities, potentialities, etc. Such people seem to be fulfilling themselves and to be doing the best that they are capable of doing, reminding us of Nietzsche's exhortation, "Become what thou art" They are people who have developed or are developing to the full stature of which they are capable..... 133

Since the need for self-actualization has been postulated as an instinctoid need in man, the characteristics of the self-actualizing people can be considered to be presently existing, though in the form of unrealized potentials, in man in general. Consequently, these are noted as part of Maslow's view of man. 134

1. More Efficient Perception of Reality and More Comfortable Relations with it.

The first form in which this capacity was noticed was an unusual ability to detect the spurious, the joke, and the dishonest in personality, and in general to judge people correctly and efficiently.....

As the study progressed, it slowly became apparent that this efficiency extended to many other areas of life --- indeed all areas that were observed. In art and music, in things of the intellect, in scientific matters, in politics and public affairs, they seemed as a group to be able to see concealed or confused realities more swiftly and more correctly than others. 135

2. Acceptance (self, others, nature)

..... Our healthy individuals find it possible to accept themselves and their own nature without chagrin or complaint or for that matter even without thinking about the matter very much.

They can accept their own human nature in the store styles, with all its shortcomings, with all its discrepancies from the ideal image without feeling real concern. It would convey the wrong impression to say that they are self-satisfied. What we must say rather is that they can take the frailties and sins, weaknesses, and evils of human nature in the same unquestioning spirit with which one accepts the characteristics of nature. One does not complain about water because it is wet, or about rocks because they are hard or about trees because they are green. As the child looks out upon the world with wide, uncritical, undemanding, innocent eyes, simply nothing and observing what is the case, without either arguing the matter or demanding that it be otherwise, so does the self-actualizing person tend to look upon human nature in himself and in others..... 136

3. Spontaneity : Simplicity : Naturalness

Self-actualizing people can all be deserved as relatively spontaneous in behaviour and far more spontaneous than that in their inner life, thoughts, impulses, etc. Their behaviour is marked by simplicity and naturalness, and by lack of artificiality or straining for effect. This does not necessarily mean consistently unconventional behaviour. If we were to take an actual count of the number of times that the self-actualizing person behaved in an unconventional manner the tally would not be high. This unconventionality is not superficial but essential or internal. It is his impulses, thought

consciousness that are so unusually unconventional, spontaneous, and natural.
137

Problem Centering :

Our subjects are in general strongly focused on problems outside themselves. In current terminology they are problem centered rather than ego, centered. The generally are not problems for themselves and are not generally much concerned about themselves, eg; a contrasted with the ordinary introspectiveness that one finds in unsecure people. These individuals customarily have some mission in life, some task to fulfill, some problem outside themselves with enlists much of their energies. 138

5. The Quality of Detachment; the Need for Privacy :

For all my subjects it is true that they can be solitary without harm to themselves and without discomfort. Furthermore, it is true for almost all that they positively like solitude and privacy to a definitely greater degree than the average person. 139

The quality of detachment may have some connection with certain other qualities as well. For one thing it is possible to call my subjects more objective (in all senses of that word) than average people. We have seen that they are more problem centered than ego centered. This is true even when the problems concern themselves, their own wishes, motives, hopes or aspirations. Consequently they have the ability to concentrate to a degree not usual for ordinary men.....

..... My subjects make up their own minds, come to their own decisions, are self-starters, are responsible for themselves and their own destinies.....

.....of my self-actualizing subjects, 100 percent are self movers . 140

Finally, I must make a statement even though it will certainly be disturbing to many theologians, philosophers, and scientists : self - actualizing individuals have more "free will" and are less " determined" than average people are.¹⁴¹

6. Autonomy ; Independence of culture and Environment ; Will; Active Agents

One of the characteristics of self-actualizing people, which to a certain extent crosscuts much of what we have already described, is their relative independence of the physical and social environment. Since they are peopelled by growth motivation rather than by deficiency motivation, self-actualizing people are not dependent for their main satisfaction on the real world, or other people or culture or means to ends or, in general, or extensive satisfactions. Rather they are dependent for their own development and continued growth on their own potentialities and latent resources. Just as the tree needs sunshine and water and food, so do most people need love, safety, and the other basic need gratifications that can come only from without. But once these external satisfiers are obtained, once these receiver deficiencies are satiated by outside satisfiers, the true problem of individual human development begins eg. self - actualization.

This independence of environment means a relative stability in the face of the hard knocks blows, deprivations, frustration, and the like. These people can maintain a relative serenity in the midst of circumstances that would drive other people to suicide, they have also been described as "Self-contained."

Deficiency - motivated people must have other people available, since most of their main need gratifications (love, safety, respect, prestige, belongingness) can come only from other human beings. But growth-motivated people may actually be hampered by others. The determinants of satisfaction

and of the good life are for them now inner - individual and not social. They have become strong enough to be independent of the good opinion of other people or even of their affection..... 142

7. Continued Freshness of Appreciation :

Self-actualizing people have the wonderful capacity to appreciate again and again, freshly and naively, the basic goods of life, with awe, pleasure, wonder and even ecstasy, however stale these experiences may have become to others..... What C. Wilson has called "newness" thus for such a person any sunset may be as beautiful as that first one, any flower may be of breath-taking loveliness, even after he has seen a million flowers. The thousandth baby he sees is just as miraculous a product as the first one he saw. He remains as convinced of his luck in marriage thirty years after his marriage and is as surprised by his wife's beauty when she is sixty as he was forty years before. For such people, even the casual workaday, moment-to-moment business of living can be thrilling, exciting, and ecstatic. These intense feelings do not come all the time; they come occasionally rather than usually, but at the most unexpected moments..... 143

8. The Mystic Experience; the Peak Experience :

Those subjective expressions that have been called the mystic experience and described so well by William James are a fairly common experience for our subjects though not for all. The strong emotions described in the previous sections some times get strong enough, chaotic, and widespread enough to be called mystic experience.....

Apparently the acute mystic or peak experience is a tremendous intensification of any of the experiences in which there is loss of self or

transcendence of it, eg. problem centering, intense concentration, muga behaviour as described by Benedict, intense sensuous experience, self-forgetful and intense enjoyment of music or art..... 144

9. Gemeinschaftsgefühl

This word, invented by Alfred Adler, is the only one available that describes well the flavor of the feelings for mankind expressed by self-actualizing subjects. They have for human beings in general a deep feeling of identification, sympathy, and affection inspite of the occasional anger, impatience, or disgust described below. Because of this they have a genuine desire to help the human race. It is as if they were all members of a single family..... 145

10 - Interpersonal Relations

Self-actualizing people have deeper and more profound interpersonal relations than any other adults.....they are capable of more fusion; greater love, more perfect identification; more obliteration of the ego boundaries than any other people would consider possible.....

One consequence of this phenomenon and of certain others as well is that especially deep ties with rather few individuals. Their circle of friends is rather small. The ones that they love profoundly are few in number. Partly this is for the reason that being very close to someone in this self-actualizing style seems to require a good deal of time..... 146

11. The Democratic Character Structure

All my subjects without exception may be said to be democratic people in the deepest possible sense. I say this on the basis of a previous analysis of

authoritarian and democratic character structures..... These people have all the obvious or superficial democratic characteristics. They can be and are friendly with anyone of suitable character regardless of class, education, political belief, race, or color. As a matter of fact it often seems as if they are not even aware of these differences, which are for the average person so obvious and so important.

They have not only this most obvious quality but their democratic feeling goes deeper as well. For instance they find it possible to learn from anybody who has something to teach them no matter what other characteristics he may have.....

Most profound, but also most vague is the hard to-get-at-tendency to give a certain quantum of respect to any human being just because he is a human individual. Our subjects seem not to wish to go beyond certain minimum point, even with scoundrels, of demeaning, of derogating, of robbing, of dignity. And yet this goes along with their strong sense of right and wrong, of good and evil. They are more likely rather than less likely to counterattack against evil men and evil behaviour. They are far less ambivalent, confused or weak-willed about their own anger than average men are. 147

12. Discrimination between Means and Ends, between Good and Evil.

I have found none of my subjects to be chronically unsure about the difference between right and wrong in his actual living. Whether or not they could verbalize the matter, they rarely showed in their day-to-day living the chaos, the confusion, the inconsistency, or the conflicts that are so common in the average person's "ethical dealings. " This may be phrased also in the following terms : These individuals are strongly ethical, they have definite moral standards, they do right and do not do wrong. Needless to say, their

notions of right and wrong and good and evil are often not the conventional ones. 148

13. Philosophical, Unhostile, sense of Humor.

One very early finding that was quite easy to make, because it was common to all of my subjects, was that their sense of humor is not of the ordinary type. They do not consider funny what the average man considers to be funny. Thus they do not laugh at hostile humor (making people laugh by hurting someone) or superiority humor (laughing at some one else's inferiority or authority-rebellion humor (the unfunny, Oedipal, or smutty joke). Characteristically what they consider humor is more closely allied to philosophy than to anything else..... 149

14. Creativeness

This is a universal characteristic of all the people studied or observed. There is no exception. Each one shows in one way or another a special kind of creativeness or originality or inventiveness that has certain peculiar characteristics..... The creativeness of the self-actualized man seems.... to be kind to the naive and universal creativeness of unspoiled children. It seems to be more a fundamental characteristic of common human nature.... a potentiality given to all human beings at birth. Most human beings lose this as they become enculturated, but some few individuals seem either to retain this fresh and naive, direct way of looking at life, or if they have lost it, as most people do, they later in life recover it. Santayana called this the "second naivete," a very good name for it. 150

15. Resistance to Enculturation: the transcendence of any particular culture

Self-actualizing people are not well adjusted (in the naive sense of approval of and identification with the culture). They get along with the culture in various ways, but of all of them it may be said that in a certain profound and meaningful sense they resist enculturation and maintain a certain innerdetachment from the culture in which they are immersed. 151

16. The Imperfections of Self-actualizing people

Our subjects shows many of the lesser human failings. The too are equipped with silly, wasteful, or thoughtless habits. They can be boring, stubborn, irritating. They are by no means free from a rather superficial vanity pride, partiality to their own productions, family, friends, and children. Temper outbursts are not rare.

Our subjects are occasionally capable of an extraordinary and unexpected ruthlessness. It must be remembered that they are very strong people. This makes it possible for them to display a surgical coldness when this is called for, beyond the power of the average man..... 152

Finally, it has already been pointed out that these people are not free of guilt, anxiety, sadness, self-castigation, internal strike and conflict. The fact that these arise out of non-neurotic sources is of little consequence to most people today (even to most psychologists) who are therefore apt to think them unhealthy for this reason.

What this has taught me I think all of us had better learn. There are no perfect human beings I persons can be found who are good, very good indeed, in fact, great. There do in fact exist creators, seers, sages, saints shakers and movers. This can certainly give us hope for the future of the species even if they are common and do not come by the dozen. And yet these very same

people can at times be boring, irritating, petulant, selfish, angry, or depressed. To avoid disillusionment with human nature, we must first give up our illusions about it. 153

17. Values and Self-actualization

A firm foundation for a value system is automatically furnished to the self-actualizer by his philosophic acceptance of the nature of his self of human nature, of much of social life, and of nature and physical reality. These acceptance values account for a high percentage of the total of his individual value judgements from day to day. What he approves of, disapproves of, is loyal to, opposes or proposes, what pleases him or displeases him can often be understood as surface derivations of this source trait of acceptance. 154

The topmost portion of the value system of the self-actualized person is entirely unique and idiosyncratic --- character -- structure expressive. This must be true by definition, for self-actualization is actualization of a self, and no two selves are altogether alike. There is only one Renoir, one Brahms, one Spinoza. Our subjects had very much in common, as we have seen and yet at the same time were more completely individualized, more unmistakably themselves, less easily confounded with others than any average control group could possibly be. That is to say, they are simultaneously very much alike and very much unlike each other. They are more completely individual than any group that has been described, and yet also more completely specialized, more identified with humanity than any other group yet described. They are closer to both their specieshood and to their unique individuality. 155

18. The Resolution of Dichotomies in Self-actualization

At this point we may finally allow ourselves to generalize and underscore a very important theoretical conclusion derivable from the study of self-actualizing people. At several points in this chapter - and in other chapters as well-it was concluded that what had been considered in the past to be polarities or opposites or dichotomies were so only in less healthy people. In healthy people, these dichotomies were resolved, the polarities disappeared and many oppositions thought to be intrinsic merged and coalesced with each other to form unities.....

For example the age-old opposition between heart and head, reason and instinct, or cognition and conation was seen to disappear in healthy people where they become synergic rather than antagonists, and where conflict between them disappears because they say the same thing and point to the same conclusion. In a word in these people, desires are in excellent accord with reason. St. Augustine's " Love god and so do as you will" can easily be translated, Be healthy and than you may trust your impulses."

The dichtung between selfishness and unselfishness disappears altogether in healthy people because in principle every act is both selfish and unselfish. Our subjects are simultaneously very spiritual and very pagan and sensual even to the point where sexuality becomes a path to the spiritual and "religious". Duty cannot be contrasted with pleasure nor work with play when duty is pleasure, when work is play, and the person doing his duty and being virtuous is simultaneously seeking his pleasure and being happy. If the most socially identified people are themselves also the most, individualistic people, of what use is it to retain the polarity? If the most mature are also childlike? And if the most ethical and moral people are also the lustiest and most animal ?

Similar findings have been reached for kindness - ruthlessness, concreteness - abstractness, acceptance - rebellion, self-society, adjustment-maladjustment, detachment from others-identification with others, serious-humorous, Dionysian - Apollonian introverted - extraverted, intense-casual serious frivolous, conventional - unconventional, mystic-realistic; active-passive, masculine-feminine, lust-love, and Eros-Agape.....

In this, as in other ways healthy people are so different from average ones, not only in degree but in kind as well, that they generate two very different kinds of psychology. It becomes more and more clear that the study of crippled, stunted, immature, and unhealthy specimens, can yield only a cripple philosophy. The study of self-actualizing people must be the basis for a more universal scene of psychology. 156

We can conclude that in his view of man, Maslow has given primary emphasis to the following dimensions : Man is self-actualizing, Man is self-affirming, man is holistic. An integrated whole, man is other-affirming. Man is unique.

As in the case of Bonner, Bugental and Fromm, Maslow also gives primary emphasis on the concept that man is a self-actualizing being. Simultaneously, however, he gives primary emphasis to the concepts of 'self-affirming' and 'other affirming', It would appear that these three interrelated concepts can be brought under the one idea that man is synergic. In other words, man's nature is such that he values not only his own self-actualization but, simultaneously, he values the self-actualization, of the other person. Man's choices can then no longer be labelled as selfish or unselfish because the synergic person transcends this dichotomy and aids his fellow man to achieve a fuller realization of humane values at the same time as he does this for himself. Thus, though Maslow explicitly points to self-actualization as an instinctoid need

of man's deeper/higher nature, he could be better understood as saying that man has an instinctoid need for synergic actualization.

A similar idea is expressed by Sir John Eccles. Sir John Eccles, neurophysiologist and dualist was occupied in his first series of Gifford lectures in sketching "the scientific story of the way that led to us from the Big Bang". 157

If the Bang had been even a little smaller, or faster, the universe would not have lasted long enough for biological evolution to occur. If the mutual annihilation of electrons and positrons had not followed the chance course it did, or protons had not ended up outnumbering neutrons by six to one, the universe would have been unimaginably different, and unsuited to us. If the solar system and its third planet, had not had just the right composition, mass and temperature, life would not have evolved here. Sir John makes great play with the notion that it is our presence in the universe which 'explains' these contingencies, though it is not clear from the text whether he is accepting them as an argument for design, or as a hint that the universe has infinitely many variants, or had undergone infinitely many cycles in either of which latter cases it would not be surprising that we looked out upon a relatively suitable environment.

Turning to biological history, he contends that no observer could ever have predicted the emergence of life, of vertebrates, of human culture. Nothing that went before, and no properties of the elements, could determine or explain the result. Human cultural experience, and self-consciousness in particular, has to be regarded as of radically different kind from and apparently analogous structure in animal experience.

The possibility of Naturalism : A philosophical Critique of the contemporary Human Sciences by Roy Bhasker tries to attack positivism and

the way human beings are studied by objective methods. In this book although ostensibly concerned with the philosophy of the social sciences, the author examines numerous related issues and in particular attacks positivist doctrines in their various guises, while at the same time arguing for a transcendental realist theory of science applicable in both the natural and social spheres.

Anti-positivist themes dominate in a number of other places, especially in the discussion of reductionism and his claim that human action cannot be reduced to social neurological or chemical activity. He continually argues for the need to acknowledge individual minds and that any philosophy which, like behaviourism; tries to deny them is conceptually inadequate. Such antipositivist sentiments sometimes lead the author into excesses. He endeavours, for example, to distinguish society from nature by saying that the former is an open system while the latter is a closed one. This in, is his opinion, makes experimentation an inappropriate method in the social sciences. 158

Rollo May's view of man has been obtained from his book, man's search for himself. Relevant passages from this have been quoted below to form a summarized version of his view. May first addresses himself to some of the problems that man experience.

It may sound surprising when I say, on the basis of my own clinical practice as well as that of my psychological and psychiatric colleagues, that the chief problem of people in the middle decade of the twentieth century is emptiness. By that I mean not only that many people do not know what they want; they often do not have any clear idea of what they feel..... 159

While one might laugh at the meaningless boredom of people a decade or two ago, the emptiness has for many now moved from the state of boredom to a state of futility and despair which holds promise or dangers.... the human

being cannot live in a condition of emptiness for very long : If he is not growing toward something, he does not merely stagnate : the pent-up potentialities turn into morbidity and despair, and eventually into destructive activities. 160

Another characteristic of modern people is loneliness. They describe this feelings as one of being "on the outside", isolated, or, if they are sophisticated, they say that they feel alienated..... 161

Anxiety, the other characteristic of modern man, is even more basic than emptiness and loneliness. For being "hollow" and lonely would not bother us except peculiar psychological pain and turmoil called anxiety.....¹⁶² anxiety may take all forms and intensities, for it is the human beings basic reaction to a danger to his existence or to some value he identifies with his existence..... as soon as the threat becomes great enough to involve the total self, one then has the experience of anxiety. Anxiety strikes us at the very "core" of ourselves: it is what we feel when our existence as selves is threatened.

..... In its full-blown intensity, anxiety is the most painful emotion to which the human animal is heir..... 163

Having said this, May goes on to elaborate on the two themes of his view of man.

- (1) Man has consciousness (awareness) of himself, and he must use this
- (2) Man also has other unique powers which too he must use to fulfill his own potentialities.

Thus, May notes :

..... around the age of two, more or less, there appears in the human being the most radical and important emergence so far in evolution, namely his consciousness of himself. He begins to be aware of himself as an "I". As the foetus in the womb, the infant has been part of the "original we" with its mother, and it continues as part of the psychological "we" in early infancy.

But now the little child-for the first time - becomes aware of his freedom..... He experiences himself as an identity who is separated from his parents and can stand against them if need be. This remarkable emergence is the birth of the human animal into a person. 164

This consciousness of self this capacity to see one's self as though from the outside, is the distinctive characteristic of man. 165

..... Man's consciousness of himself is the source of his highest qualities....¹⁶⁶ This capacity for consciousness of ourselves gives us the ability to see ourselves as others see us and to have empathy with others.... No matter how poorly we use or fail to use or even abuse these capacities, they are the rudiments of our ability to begin to love our neighbour, to have ethical sensitivity, to see truth, to create beauty, to devote oneself to ideals, and to die for them if need be.

To fulfill these potentialities is to be a person.....¹⁶⁷ Almost every adult is, in greater or lesser degree, still struggling on the long journey to achieve selfhood on the basis of the patterns which were set in his early experiences in the family. Nor do we for a moment overlook the fact that selfhood is always born and grows in interpersonal relationships. But no "ego" moves on into responsible selfhood if it remains chiefly the reflection of the social context around it. In our particular world in which conformity is the great destroyer of selfhood - in our society in which fitting the "pattern" tends to be accepted as the norm, and being "well liked" is the alleged ticket to salvation - what needs to be emphasized is not only the admitted fact that we are to some extent created by each other but also our capacity to experience, and create, ourselves. 168

What does it mean to experience one's self or a self? The experience of our own identity is the basic conviction that we all start with as psychological

beings. It can never be proven in a logical sense, for consciousness of one's self is the presupposition of any discussion about it.... 169

We do not need to prove the self as an "object". It is only necessary that we show how people have the capacity for self relatedness. The self is the organizing function within the individual and the function by means of which one human being can related to another. It is prior to, not an object of, our science; it is presupposed in the fact that one can be a scientist.

Human experience always goes beyond our particular, methods of understanding it at any given moment, and the best way to understand one's identity as a self is to look into one's own experience..... 170

..... The experience of one's own identity or becoming a person, is the simplest experience in life even though at the same time the most profound.....¹⁷¹ Every organism has one and only one central need in life, to fulfill its own potentialities..... yet man does not grow automatically like a tree, but fulfills his potentialities only as he in his own consciousness plans and chooses. ¹⁷²

Man, furthermore, must make his choices as an individual, for individuality is one side of one's consciousness of one's self. We can see this point clearly when we realize that consciousness of one's self is always an unique act -- I can never know exactly how you see yourself and you never can know exactly how I related to myself. This is the inner sanctum where each man must stand alone. This fact makes for much of the tragedy and inescapable isolation in human life, but it also indicates again that we must find the strength in ourselves to stand in our own inner sanctum as individuals. And this fact means that, since we are not automatically merged with our fellows, we must through our own affirmation learn to love each other.¹⁷³..... Consciousness of self actually expands our control of our lives

and with that expanded power comes the capacity to let ourselves go. This is the Truth behind the seeming paradox, that the more consciousness for one's self one has, the more spontaneous and creative one can be at the same time. 174

- In the achieving of conscienceness of one's self, most people must start back at the beginning and rediscover their feelings..... 175

Awareness of one's feelings lays the groundwork for the second step: knowing what one wants 176

The third step, along with rediscovering our feelings and wants, is to recover our relation with the subconscious aspects of ourselves..... 177

The upshot of the chapter has been to show that the more self-awareness a person has, the more alive he is, "The more consciousness", remarked kierkegaard, "the more self" Becoming a person means this heightened awareness, this heightened experience of "I -ness", this experience that it is I, the acting one, who is the subject of what is occurring. 178

May then describes some of man's other unique powers. A fundamental characteristic of man is his freedom to choose. Thus, May writes :

Freedom is man's capacity to take a hand in his own development. It is our capacity to mold ourselves. Freedom is the other side of consciousness of self : if we were not able to be aware of ourselves, we would be pushed along by instinct or the automatic march of history, like bees or mastodons..... consciousness of self gives us the power to stand outside the rigid chain of stimulus and response, to pause and by this pause to throw some weight on either side, to cast some decision about what the response will be.

That consciousness of self and freedom go together is shown in the fact that the less self-awareness a person has, the more he is unfree. That is to say, the more he is controlled by inhibitions, repressions, childhood.

Conditionings which he has consciously "forgotten" but which still drive him unconsciously, the more he is pushed by forces over which he has no control. 179

As the person gains more consciousness of self, his range of choice and his freedom proportionately increase. Freedom is cumulative; one choice made with an element of freedom makes greater freedom possible for the next choice. Each exercise of freedom enlarges the circumference of the circle of one's self.

We do not mean to imply that there are not an infinite number of deterministic influences in any one's life..... But no matter how much one argues for the deterministic viewpoint, he still must grant that there is a margin in which the alive human being can be aware of what is determining him. And even if only in a very minute way to begin with, he can have some say in how he will react to the deterministic factors.

Freedom is thus shown in how we relate to the deterministic realities of life.... 180

The arguments of "freedom versus determinism" are on a false basis, just as it is false to think of freedom as kind of isolated electric button called "free will". Freedom is shown in according one's life with realities - realities as simple as the needs for rest and food, or as ultimate as death. Meister Eckhart expressed this approach to freedom in one of his astute psychological counsels, "when you are thwarted, it is your own attitude that is out of order" Freedom is involved when we accept the realities not by blind necessity but by choice. This means that the acceptance of limitations need not at all be a "giving up", but can and should be a constructive act of freedom, and it may well be that such a choice will have more creative results for the person than if he had not had to struggle against any limitation whatever. The man who is

devoted to freedom does not waste time fighting reality; instead, as Kierkegaard remarked, he "extols reality".

..... Freedom is most dramatically illustrated in the "heroic" actions, like Socrates' decision to drink the hemlock rather than compromise; but even more significant is the undramatic, steady day-to-day exercise of freedom on the part of any person developing toward psychological and spiritual integration in a distraught society like our own.

Thus freedom is not just the matter of saying "yes" or "No" to a specific decision: it is the power to mold and create ourselves. Freedom is the capacity, to use Nietzsche's phrase, 'to become what we truly are',¹⁸¹

The essence of existentialism, of the Sartrean as well as other varieties is its belief in the capacity of the individual to care greatly about his freedom and inner integrity, enough to die or commit suicide for them if need be.....

We agree with the fundamental Sartrean precept that the individual has no recourse from the necessity of making final decisions for himself, and that his existence as a person hangs or falls in these choices; and to make them in the last analysis in freedom and isolation may require literally as well as figuratively an agony of anxiety and inward struggle. But the fact that human beings can at times die for this freedom (both very strange things, quite contrary to any simple doctrine of self-preservation) implies some profound things about human nature and human existence.....¹⁸²

Freedom does not come automatically, it is achieved. And it is not gained at a single bound; it must be achieved each day..... The basic step in achieving inward freedom is "choosing oneself". This strange sounding phrase of Kierkegaard's means to affirm one's responsibility for one's self and one's existence. It is the attitude which is opposite to blind momentum or routine existence: it is an attitude of aliveness and decisiveness; it means that one

recognizes that he exists in his particular spot in the universe, and he accepts the responsibility for this existence. This is what Nietzsche meant by the "Will to live" --- not simply the instinct for self - preservation, but the will to accept the fact that one is one's self, and to accept the responsibility for fulfilling one's own destiny, which in turn implies accepting the fact that one must make his basic choices himself. 183

When one has consciously chosen to live, two other things happen. First, his responsibility for himself takes on a new meaning. He accepts responsibility for his own life not as something with which he has been saddled, a burden forced upon him : but as a something he has chosen himself. For this person, himself, now exists as a result of a decisions himself has made to be sure any thinking person realizes in theory that freedom and responsibility go together : If one is not free, one is an automation and there is obviously no such thing as responsibility and if one cannot be responsible for himself he can't be trusted with freedom. But when one has "Chosen himself this partnership of freedom and responsibility becomes more than a nice idea : he experiences it on his own pulse : in his choosing himself, he becomes aware that he has chosen personal freedom and responsibility for himself in the same breath.

The other thing which happens is that discipline from the outside is changed into self-discipline. He accepts not because it is commanded for who can command -- and someone who has been free to take his own life ? -- but because he has chosen with greater freedom what he wants to do with his own life; and discipline is necessary for the sake of the values he wishes to achieve. This self-discipline can be given fancy names --- Nietzsche called it "Loving one's fate" and Spinoza spoke of obedience to the laws of life. But

whether bedecked by fancy terms or not, it is, I believe, a lesson everyone progressively learns in his struggle toward maturity. 184

The next characteristic that May mentions is man's conscience thus, he notes :

Man is the "ethical animal" - ethical in potentiality even if unfortunately, not in actuality. His capacity for ethical judgement - like freedom, reason and the other unique characteristics of the human beings - is based upon his consciousness of himself. 185

Man can "look before and after". He can transcend the immediate moment, can remember the past and plan for the future, and thus choose a good which is greater, but will not occur till some future moment in preference to a lesser, immediate one. By the same token he can feel himself into someone else needs and desires, can imagine himself in the other's place, and so make his choices with a view to the good of his fellows as well as himself. This is the beginning of the capacity, however imperfect and rudimentary it may be in most people, to love thy neighbour and to be aware of the relation between their own acts and the welfare of the community.

The human being not only can make such choices of values and goals, but he is the animal who must do so if he is to attain integration. For the value the goal he moves toward - serves him as a psychological center, a kind of core of integration which draws together his powers as the core of a magnet draws the magnet's lines of force together. Knowing what one wants is essential for the beginnings of the child's and young person's capacity for self-direction. Knowing what one wants is simply the elemental form of what in the maturing person is the ability to choose one's own values. The mark of the mature man is that his living is integrated around self - chosen goals : he knows what he wants, no longer simply as the child wants ice-cream but as,

the grown person plans and works toward a creative love relationship or toward business achievement or what not. He loves the members of his family not because he has been thrown together with them by the accident of birth but because he finds them lovable and chooses to love them, and he works not merely from automatic routine but because he consciously believes in the value of what he is doing. 186

Man is the ethical animal : but this achievement of ethical awareness is not easy. He does not grow into ethical judgement as simply as the flower grows toward the sun. Indeed like freedom and the other aspects of man's consciousness of self, ethical awareness is gained only at the price of inner conflict and anxiety. 187

Conscience is not a set of handed-down prohibitions to constrict the self, to stifle its vitality and impulses. Nor conscience to be thought of as divorced from tradition, as in the liberalistic period when it was implied that one decided every act de novo. Conscience, rather, is one's capacity to tap one's own deeper, levels of insight, ethical sensitivity and awareness, in which tradition and immediate experience are not opposed to each other but interrelated. The etymology of the term reveals this point. Composed of the two latin words meaning "to know" (seire) and "with" (cum), conscience is very close to the term consciousness.....

We wish thus to emphasize the positive aspects of conscience - conscience as the individual's method of tapping wisdom and insight within himself, conscience as an "opening up," a guide to enlarge experience. This what Nietseche was referring to in his paeon on the them "beyond good and evil", and what Tillich means in his concept of the transmoral conscience. With this view it will no longer be true that "Conscience cloth make cowards of us all" Conscience, rather will be the taproot of courage. 188

May proceeds to discuss the quality of courage :

In any age courage is the simple virtue needed for human being to traverse the rocky road from infancy to maturity of personality. But in an age of anxiety, an age of herd morality and personal isolation, courage is a *sin qua non*. 189

Courage is the capacity to meet the anxiety which arises as one achieves freedom. It is the willingness to differentiate, to move from the protecting realms of parental dependence to new levels of freedom and integration. The need for courage arises not only at those stages when breaks with parental protection are most obvious - such as at the birth of self-awareness, at going off to school, at adolescence, in crises of love, marriage and the facing of ultimate death - but at every step in between as one moves from the familiar surroundings over frontiers into the unfamiliar "Courage, in its final analysis" as the neurobiologist Dr. Kurt Goldstern well puts it, "is nothing but an affirmative answer to the shocks of existence which must be borne for the actualization of one's own nature"

The opposite to courage is not cowardice: that, rather is the lack of courage, To say a person is a coward has no more meaning than to say he is lazy : it simply tells us that some vital potentiality is unrealized or blocked. The opposite to encourage, as one endeavours to understand the problem in our particular age, is automation conformity.

The courage to be one's self is scarcely admired as the top virtue these days. 190

What we lack in our day is an understanding of the friendly, warm, personal, original, constructive courage of a socrates or a spinoza. We need to recover an understanding of the positive aspects of courage -- Courage as the inner side of growth, Courage as a constructive way of that becoming one's

self which is prior to the power to give one's self. Thus, when in this chapter we emphasize standing on one's own belief we do not at all imply living in a vacuum of separateness, actually courage is the basic of any creative relationship.¹⁹¹

Courage is necessary in every step in a person's movement from the mass -symbolically the womb to becoming a person in his own right; it is at each step as though one suffers the pangs of his own birth. Courage whether the soldier's courage in risking death or the child's in going off to school, means the power to let go of the familiar and the secure. Courage is required not only in a person's occasional crucial decision for his own freedom, but in the little hour - to - hour decisions which place the bricks in the structure of his building of himself into a person who acts with freedom and responsibility. ¹⁹²

It requires greater courage to preserve inner freedom to move on in one's inward journey into new realms, than to stand defiantly for outer freedom. It is often easier to play the martyr, as it is to be rash in battle. Strange as it sounds, steady, patient growth in freedom is probably the most difficult task of all, requiring the greatest courage. ¹⁹³

May then moves on to appreciate man's ability to live in present, yet be able simultaneously to imagine the future and utilize the past. He notes :

The power to "look before and after" is part of man's ability to be conscious of himself. Plants and animals live by quantitative time : an hour, a week or a year past, and the tree has another ring on its trunks. But time is a quite different thing for human beings ; man is the time surmounting mammal. In his works on semantics, Alfred Korzybski has insistently made the point that the characteristic which distinguishes man from all other living things is his time - binding capacity. By that, says Korzybski, "I mean the capacity to use the fruits of past labors and experiences as intellectual or spiritual capital for

developments in the present..... I mean the capacity of human beings to conduct their lives in the ever increasing light of unherited wisdom; I mean the capacity in virtue of which man is at once the heritor of the by - gone ages and the trustee of posterity. 194

Psychologically and Spiritually, man does not live by clock alone. His time, rather depends on the significance of the event..... psychological time is not the sheer passage of time as such, but the meaning of the experience, that is, what is significant for the person's hopes, anxiety, growth. 195

..... The less alive a person is -- "alive" here defined as having conscious direction of his life -- the more is time for him the time of the clock. The more alive he is, the more he lives by qualitative time. 196

May concludes by mentioning that :

The first thing necessary for a constructive dealing with time is to learn to live in the reality of the present moment. For psychologically speaking, this present moment is all we have..... 197

When a person looks directly into himself, all he is aware of is his instant of consciousness at that particular moment of the present.

It is this instant of consciousness which is most real, and must not be fled from. 198

It is by no means as easy as it may look to live in the immediate present. For it requires a high degree of awareness of one's self as an experiencing "I". The less one is conscious of himself as the one who acts, that is, the more unfree and automatic he is, the less he will be aware of the immediate, present.....

But the more awareness one has that is, the more he experiences himself as the acting, directing agent in what he is doing -- the more alive he

will be and the more responsive to the present moment. Like self-awareness itself, this experiencing of the quality of the present can be cultivated.....199

The most effective way to ensure the value of the future, as we have mentioned, is to confront the present courageously and constructively..... an essential characteristic of the creative act done in human consciousness is that it is not limited by quantitative time. No one values a painting according to how long it took to paint it or how big it is : should we judge our actions by more superficial standards than a painting ? 200

The present moment is thus not limited from one point on the clock to another. It is always "pregnant", always ready to open, to give birth. One has only to try the experiment of looking deeply within himself, let us say, trailing almost any random ideas, and he will find, so rich is a moment of consciousness in the human mind, that associations and new ideas beckon in every direction the moment always has its "finite" side, to use a philosophical term, which the mature person never forgets. But the moment also always has its infinite side, it always beckons with new possibilities. Time for the human being is not a corridor; it is a continual opening out.201

In his view of man, May has given primary emphasis to the following dimensions : Man is conscious/aware, self-determining, risk - taking /courageous, ontologically responsible, socially responsible. Secondary emphasis has been given to the dimension : Man is present - confronting. The remaining dimensions received tertiary emphasis. May has given only tertiary emphases to the concept that man is self actualizing. This would, however, be an erroneous interpretation of his view of man for he has specifically stated that :
..... Every organism has one and only one central need in life, to fulfill its own potentialities..... 202

May sees full self-actualization, in the sense of fully utilizing his potentialities, as the primary need - value - task of man. In his view of man, May has given primary emphasis to those powers of man which he must particularly use in order to effectively satisfy his one central need.

Like Bugental, May considers man's consciousness to be his most distinctive source of guidance for the choices that he must make to satisfy his hunger for self-actualization. In addition to this, however, he places an equal degree of emphasis on man's conscience his feeling of responsibility for facilitating both his own and his fellow man's self-actualization. Finally he gives primary emphasis to the part that courage plays in shaping the manner in which man meets the anxieties of existence and fulfills his potentialities. Needless to say, the powers of consciousness, conscience and courage are, like all concepts concerned with man, deeply interrelated and interdependent. the use of any one of them fosters the use of the others, and simultaneously the growth and fulfillment of the person as a whole.

May talks of the ability of man to live in the present, imagine the future and utilize the past. A similar view is expressed by S.H. Vatsyayan in his book A sense of time --- An exploration of time in theory, Experience and Art ²⁰³ in this book he takes up the question What is time ? He further says that the interesting thing about that question is that we all know the answer to it till the question is put to us. Some readers will recall St. Augustine's confession of his dilemma ; 'What, then is time ? If no one asks me, I know; If I wish to explain to him who asks, I know not'.

He further says we cannot stop the flow; even more important we cannot alter the direction of its flow. The flow of time is uni-directional and irreversible. When one speaks on time one is reminded of Martin Heidegger. 'Time is the basic category of existence', wrote Heidegger, referring very

definitely to time as experienced by the individual Time is 'the immediate datum consciousness, ' said Bergson, focussing his attention also upon time as experienced, and going on from there to the experience of 'duration'.

But at the same time as these thinkers were concentrating upon the qualitative aspects of time, whether in itself or for the implications of that aspect for the human self, Science was developing the idea of quantitative units of physical time. Time in these two aspects seemed unrelated and discontinuous. This lack of relationship and discontinuity raised further problems of human identity ; while man experiences time as flux or change he also experiences it in terms of the growth of the self. Experientially time and self are so ultimately related that the question 'What is man? immediately and inevitably converts itself into 'What is time'? A fragmented or discontinuous view of the self and of personality any attempt to put Humpty Dumpty together again' translates itself into the effort to re-integrate time into a continuous whole or flow. But the study of time and the personality together reveals further quirks of the humanpsyche, for we have to reconcile the fact that 'the self grows in time' with the fact that the same self exhibits the capacity to arrest time, or to touch a static dimension of time utterly inconsistent with the notion of time as flow.

The experience of time as movement in the direction of death where do we put it in the scheme of things ? Again to quote Heidegger, man alone of all the animals, being self-conscious, had fore knowledge of his own death -- or rather the inevitability of death. What may he do with this knowledge ?

Kalo na Yato Vayameva Yatah -- Dhatrihari.

Never send to know for whom the bell tolls, it tolls for thee ---

--- John Donne.

Time devours our lives ----- Baudclaire.

The flower that has once blown forever dies ----

---- Fitzgerald (Omar Khayyam)

The course of my life is deathward set -----

--- D.H. Lawrence.

I am a sack puffed out with air, Tied at the mouth with ageing and promised to death ----Ajneya.

I have picked out a few expressions at random, but the fact of this knowledge has been expressed in many ways in many different ages throughout the world. What may man do with the knowledge that he must die ? Live in fear ? Counter it with the hope of salvation a life beyond? These courses have been recommended and tried ; but it should be obvious that they will only work in a faith --- centered system of thought. Not positing god or an after life, What may one do ? Repress the knowledge, put it into the timeless order of the subconscious, and hope for that kind of liberation ? But repression takes its own toll in terms of anxieties resort to drugs ? that too has been tried, with results that are not better than the neuroses.

Are there positive responses possible ? I might quote a few examples, again at random : 'Time is invention, or nothing at all'

----- Bergson.

'What I value most is transitoriness

..... It is the very soul of existence.....

Transitoriness creates time ----- and time is the essence' -----Thomas Mann.

Certainly these positive responses are somewhat exceptional and very rare, the more common one is that of the meaninglessness of time or the absurdity of existence, to be met with, at best by the courage of despair.

It goes without saying that a work of art also displays this quality of timelessness, not only in the sense in which Eliot referred to the timelessness of the Chinese for, 'moving perpetually in its stillness', or Keats to the timelessness of the Grecian Urn, but also in that art, as a 'way of life', can place us beyond the temporal perspective, of death. This need not be described pejoratively as 'aestheticism', nor denounced as an 'escapist', outlook; for what I am suggesting is only a detachment from the tyranny of time : an orientation towards these qualities of experience which seem to reverse or halt the consciousness of time's progress towards death.

I am simply a sack puffed out with air,
Tied at the mouth with ageing,
And promised to death :
And yet there's this other thing, this love,
That can set me free right in the middle of life
This child of an instant can toss aside,
As if in play, Time's stunning hammer.

Time as experienced by man in modern technological society increasingly exhausts itself in quantitative units measurable here and now. Therefore there is an inner distance from the past which obliterates its form and divests it of meaning the past is not only behind us, it has slid into limbo; it is also psychologically dead. Not only in history but also in the personal history of the individual the past has died because links with it have worn down and broken.

Kenneth G. Denbigh in his book 'Three concepts of Time' deals with Time and consciousness.²⁰⁴ He makes a reference to the sense of thoughts and emotions as being one's own, as belonging to oneself. When he talks of the unity of consciousness he tackles the question what is this mysterious unity, this selfhood ?

Popper (1974 ; 277) has suggested that one of the factors on which the unity depends is the having of an idea of time. It needs, he says, an almost explicit theory of time..... to look upon oneself as possessing a past, a present and a future; as having a personal history ; and as being aware of one's personal identity (linked to the identity of one's body) throughout this history"

He further says that to be sure, other creatures as well as man have histories. Yet man is probably alone among the organisms in knowing this i.e. in knowing that he lives from birth to death. For lack of extensive memory, and other mental powers, it seems likely that animals, though having perhaps a lively sense of spatial relationships, have little sense of temporality, but live rather as if from one moment to another. They are 'present - centered', to use a phrase of Ornslein 's (1975; 89). In the case of humans, on the other hand, each individual is aware of his own history and of his self-hood and is also aware of the history and selfhood of others. This is perhaps a necessary condition for cultural evolution. Man conceives himself as having obligations towards the histories of those who will succeed him, and this implies planning for the future -- even for that part of the future which will occur long after his own individual death.

R. Baine Harris in the article CAN WE HAVE A COMMON HUMANITY?²⁰⁵ says there is really only one human problem -- being human. Among all the animals, man is the only one that has a problem being what he is. He is the only one that has a problem realizing his own potential as an individual and developing his possibilities as a species. None of the other animals have a problem being what they are. Spiders have no problem being spiders. Cats have no problem being cats ; and earthworms have no problem being earthworms, even if they are plagued with having to make both lateral

and horizontal decisions about their next move forward. Only man has a problem being what he is. His problem is being human.

Although we do not know much about the inner life of earthworms and spiders we doubt if they, like man, are capable of having ideals and values. They just do what they have to do by natural instinct, and that is that. They do not consider whether or not they are measuring up to their potential in whatever they are doing. A spider just spins a web and it is the only web that it can spin. It does not have to worry about different designs and patterns or the tensile strength of the strands that support its web. It naturally does the best it can in any given situation. But this is not the case for us. Rarely do we ever do what we are actually capable of doing. In response to a challenge we decide the degree to which we are to exert energies to that challenge and also the degree to which we are going to live up to our own ideals and values in reference to the situation at hand. We are the only species with capacity to accept or reject values, and thus the only capable of sinning.

In the Article 'The Archaeology of the Human Sciences'²⁰⁶ it is said that

The threshold of our modernity is situated not only by the attempt to apply objective methods to the study of man, but rather by the constitution of an empirico -- transcendental doublet which was called man (OT 319).

It further says that man can never get behind his language to frame an objective account of how it began or how it works. Yet he uses language, so he must in some sense already understand it. He takes up and employs his mother tongue "without knowing it, and yet it must be known, in a certain way, since it is by this means that men enter into communication and finds themselves in the already constructed network of comprehension " (OT 331).

Generalizing from this idea that language cannot be known objectively precisely because it is always already a kind of know -- how, the analytic of

finitude attempts to reappropriate the whole of history by showing that man always already has a history precisely in so far as his social practices enable him to organize all events, including events in his own culture historically. And more generally still, it turns out that man's very ability to understand himself and objects, by making projects on the basis of what is given, has a three - fold structure which corresponds to the past, present, and future. Thus man's know-how opens up a temporal field in which time and history become possible. "It is in him that things (those same things that hang over him) find their beginning : rather than cut made at some given moment in duration, he is the opening from which time in general can be reconstituted, duration can flow, and things at the appropriate moments can make their appearance" (OT 332). In Being and Time, which is the culminating example of this strategy, Heidegger argues in detail that the origin or source of temporality can only be understood by understanding the structure of authentic dasein. (Dasein is roughly equivalent to human being).

As one would expect, given the logic of the analytic of finitude, Heidegger is finally forced to the conclusion that man is condemned to the fruitless project of attempting to get clear about the origin, which in this case amounts to trying to name being and thus drag the clearing into the open. Indeed, early Heidegger comes to hold that this ontological error is definitive of man, "Man errs. Man does not merely stray into errancy. He is always astray in errancy " (BW 135). The inevitable forgetting of the inevitable hiddenness of being, correlative with the attempt to get clear about man's finitude, leads, according to Heidegger, to man essentially wondering in distress. "Dasein is a turning in need" (BW 137).

According to Heidegger to understand his own meaning man must grasp his origin, and yet it necessarily escapes him.

In this paper entitled "A Twentieth century Image of Man" Bronowski has a natural scientists view of man.²⁰⁷ He further says that the realization that scientific knowledge must of necessity have a personal component came first in physics; and although physics is not central in his theme, he ought to glance at it. When Quantum physics first made the headlines, early in this century what was stressed was the breach that the new work opened in the classical doctrine of determinism; its expositors liked to suggest that through this loop-hole free will might slip into the scientific universe. But that vague speculation, even if it means anything (Which I doubt), is beside the point. Werner Heisenberg in 1927 put his finger on the intellectual point in quantum mechanics. The principle that no description of an event, however minute, can be complete. Our knowledge of the real world is verifiable, yes and we can exchange information about what we see in the world, but only with a finite tolerance. There is an unsurmountable limit to the precision with which we can formulate experience and make it public.

In a deep sense, this had already been said by Albert Einstein when he announced the principle of relativity in 1905 he further says that he does not want to labor a concepts in physics, except to underline its human significance. Einstein showed that the laws of physics are universal, that is, are formulated in the same terms by every observer --- but only because he carries his own universe with him. Time as you measure it may be defferent from my time, mass as you measure it may be different from my mass, speed and momentum and energy may all be different it is only the relations between them that remain the same for us both. Each of us rides his personal universe, his own travelling box of time and space, and all that they have in common is the same structure or coherence; when we formalize our experiences, they yield the same laws.

These principles express a far - reaching revision in the idea of knowledge. They shift the emphasis away from the impersonal record, and they put in its place a relation from which the human observer cannot be abstracted. The scrutiny of experience is no longer idealized as an activity that could be carried out by a machine. There is no reality, there are no laws, that can be separated from the process of their discovery; the human condition is also the necessary condition for the recognition of order in the world.

The place of man in the world has become a subject of driving scientific interest for another reason. As the century has gone forward, the preoccupation of science has been moving from physics to biology. The watershed come after 1945, when many young scientists turned away from their war work and seized the chance to enter a new and different kind of field. About this time, it was found that the basic carrier of heredity in all animals is not (as had / been supposed) a complex protein, but a fairly simple nucleic acid. When the geometrical structure of the acid was unravelled by Francis Crick and James Watson shortly after, in 1953, biology came of age as an intellectual discipline; and it has attracted the best minds ever since.

We naturally study first the machinery of life that is shared by all speices : for example, we have learned much in the last twenty years about the cellular biology of man by studying some bacteria. But it is also important and revealing to ask what is his biological equipment has made man take a different path from the other animals has made him, for example, adapt his environments to himself instead of the other way about. Man is the newcommer in biological evolution his first recognizable fossil ancestor (found by Raymond Dart in Africa in 1924) is not much more than two million years old. How have we come so far in so short a time? Questions like this have transformed the image of man in the twentieth century. It has become clear

that man is unique in being predominantly a cultural animal. Even his biological evolution has been culture driven by which I mean that evolution has taken the direction to homo-sapiens as a result of the elaboration of a cultural skill that his early ancestors discovered, namely the manual dexterity to make stone tools and the mental foresight and imagery to store them for use in the future. The enlargement of the brain, the development of speech, the march over the whole globe, the use of fire and the planning first of hunting, and then of agriculture, all flow from that beginning. More recently man has been able to make cultural evolution take the place of biological evolution altogether --- since the end of the last Ice Age, roughly ten thousand years ago.

A central component in this progress, this ascent of man, has been the manipulation of mental imagery and its expression in language. There is a biological locus for that in and around the speech areas in the brain, which are unique to man; and the projection into the future which they serve is localized in another adjacent part of the human brain, his great frontal lobes. These structures testify that homo sapiens is rightly distinguished as a planning animal, and that his plans depend on a rational analysis of the world of the kind that is formalized in his languages including the languages of mathematics and science. In this sense, man is unique because he prepares for his actions by seeking knowledge, and is able to separate that from the other responses which his environment evokes.

He comes to rest on these two concepts : planning and knowledge. He further says since we now understand that human knowledge is necessarily incomplete, it follows that our plans are not simply calculations. A calculation is, as it were, a tactical plan, to solve an immediate and finite problem of action. But the large problems of conduct which shape our lives are not immediate and finite; and for them we have to devise much more general plans,

namely the grand strategies, that we call values. This how we derive and this is what we mean by such values as justice, loyalty, devotion, respect, dignity, affection, and integrity. Values are the strategies by which we guide our conduct in the face of the insoluble problems of human relations, and walk the knife-edge between our solitary desires and our social needs. Thus values are now seen to be as integral a part of human nature, the biological nature of man, as is a large brain or our inability to oxidize uric acid in our cells.

There is a familiar argument in philosophy, usually ascribed to G.E. Moore, which asserts that values cannot be derived from knowledge : to argue from "what is" to "how we ought to behave" is stigmatized as a naturalistic fallacy. What I have constructed in this twentieth century image of man is a different and lesser argument, namely that we now understand that the elaboration of values is as characteristic a human activity as is the search for knowledge. But we can take the argument further, and show that it is a philosophical error and a misreading of the nature of reality to suppose that values are independent of knowledge. The fact, the scientific fact is that knowledge does not exist until we search for it, and the phrase "what is" has no meaning for us until we take pains to discover it. We learn to know, we learn what is, only by behaving in a certain way: and how we ought to behave is therefore prescribed in fundamental way by our search to know what is. Human beings create their values, they form an ethic because they direct their aspirations towards the command of nature not by the means which other animals use, but by the road of knowledge. And that road is a biological necessity for us, it is our world line, which characterizes our nature as human nature. The image of man has become clear and exhilarating in the twentieth century and I will describe it in a picture that I have drawn once before.

Like the other primates, man is noisy, inquisitive, cooperative, intelligent, skillful, thoughtful, and as busy with himself as with his environment. These features are not common in the rest of the animal world, singly or in combination.

He (Bronowski) emphasizes that man, the predominantly culturally evolved animal, is distinguished by his planning and knowledge - seeking nature. Through his ability to plan man has, over the past few million years incorporated values like affection, respect, justice, etc. into his biological nature as surely as he has created for himself a large brain.

There is a serious gap in the knowledge of the learned about the working of the nervous system and the brain.²⁰⁸ They have no clear idea yet about the relationship between the nervous of the brain and the processes of thought, nor about the energy that fuels the former. It is surprising that, with such a void in our knowledge, relating to consciousness, any open -minded student can be rigid in his views and dogmatic in his beliefs as is the case without a few psychologists and biologists of our day.

Confident of their own erudition but, at the same time, oblivious to the lacunae in their knowledge, they reject and ridicule certain statements, not because they are wiser, but because they are not able to see the error in their own thinking, based on a study of which the botton is missing. The author in the book "The wonder of the Brain" says when he does not even know the most rudimentary facts about thought, namely how it is generated and in the process of thinking, what energy do we consume ? That the brain is nourished by blood and sugar in the blood does not explain the position. If thought has no substance, no material composition and is only an incorporeal, etheric stuff, a living vaccum or thinking, emptiness, it cannot be nourished by blood. For that would involve transformation of matter into 'nothingness' - a predicament

for science. If it has substance, however subtle that might be, it must have an energy system of its own to generate replenish and renew it. Where is that ?

It is obvious that the materialists on the one hand and the idealists on the other, the skeptics on this side and the believers on that, the evolutionists and the creationists and all other mutually contending schools of thought on this subject are wrangling over an issue which, at the base, is paradoxical. No one of the contestants knows, with certitude, what he is talking about. What is the nature of the entity which forms the ground for the debate, what is its relationship to the brain and its position in the universe ? Both sides deploy vast arrays of proofs, arguments and authorities - all hypothetical for no one knows positively anything basic about the chief actor involved, namely the mind, save that it exists.

One side takes it for granted that the world we see around is an objective reality, and that the human mind is an accurately reflecting mirror which presents its true image before us. Everyone believes that from whatever part of the earth we look the Universe, the picture would be the same. Even the latest concept of physics about the underterminable nature of matter, at its ultra microscopic levels, do not change the position that our mind is an accurate, unalterable and undoubtable instrument to observe, assess and measure that which it perceives. All our present - day knowledge of science and philosophy is based on this assumption. All our ideas and beliefs and grounded on this supposition. Even our concepts of soul, God and the hereafter are the harvest of our faith in the integrity of our mind and the credibility of the intellect. To cast doubt on the reliability of the mind is to loose faith in the accuracy of our own observations and to create anarchy in every branch of human thought.

Time after time, the special class of men and women, known as mystics, visionaries and sages tried to convince the crowds of a new form of perception attained by them, in which the objective universe loses its corporeality and multiplicity to fuse into one indescribable and incomprehensible unity, that bears no resemblance to the objective realities perceived before. As is natural, under the firm convention that the normal human mind is the only accurate and standard instrument of cognition available to us, the experiences of this exclusive class are treated either as purely visionary excursions into the subliminal areas of consciousness of encounters with God or a cosmic intelligence or even as delusion or, as Bertrand Russell puts it, not rational and real, but only emotional, subjective experiences.

He further says that the present world is woefully deficient in the knowledge of the brain and that the learned, in dealing with mind or the origin and nature of the universe usually leave the encephalon out of count, as if human intelligence exists incorporeally and independently, and does not depend for its manifestation, quality and performance on the activity of an organic instrument, beyond our scrutiny at present. The result is that much of our knowledge, at the moment, is unilateral and speculative, nescient of the nature of the 'Knower' itself. An intelligent species with a brain that shows an altered perception of time, an easy possibility, would frame an entirely different picture of the universe.

In his article Zero state of mind in thinking ²⁰⁹ Tsung I Dow says that the advancement of computer technology and information has been more revealing about the essence of mind than the world could ever have imagined. Yet what it really discovered is the mystical power of mind which is far beyond our comprehension. Researches on artificial intelligence have found that in the mind different functions are performed by different parts of the brain linked by

an illogical network of connections. Scientists have been unable to endow the computer with any of the very simple human thinking skills. ²¹⁰ The brain is like a vast electrical network at one level. But at its most microscopic level it is not connected or arranged like any known man made network. A precise point to point wiring cannot occur. If we attempt to identify, Gerald M. Edelman noted, a particular neuron, which input comes from which, no one can find out. What brain mechanisms actually produces synaptic change is an unsolved mystery. Many researchers feel that we have two different representational systems, a language system that is thinking in words and a pictorial system that is thinking in pictures. We are trying to think of complicated matters and idealize them away. But the mechanism of thought itself is limited. Not all idealizations are correct. A computer model depicting the brain's microstructure is far from certain.

Except for what the mind does, science provides no convincing answer to the question : What is the mind ? Even the problem of whether the mind can be the subject of analysis remains to disturb the thinking mind. To think of thinking itself is a problem.

The author of the book "the wonder of the brain" says that the aim of his writing a book like this (i.e. the wonder of the Brain) is to draw attention to this serious lacunae which keeps us in ignorance about our own selves. The position that he has taken up is that the human mind, as we know it at present, is not a constant, unalterable entity. It can change and with it the whole picture of the universe, which we perceive with our senses. He further says that this is a bold statement to make, and is not likely to be accepted for the simple reason that it undermines the very foundations on which science is built, namely the reality of objective world and the validity of the empirical observation conducted by the mind.

The issue boils down to this : If it is admitted that the human mind is variable and that this variation can affect the very image of the universe, and all the phenomena observed, it would clearly imply that the cosmos is not, in reality, as we perceive, assess and measure it with our intelligence, but only a creation of our mind liable to change in other dimensions of the preceptive faculty. From this it would follow that the temporal knowledge gathered by us is relative also and that what is accumulated in one dimension of consciousness can prove incomplete, deceptive or erroneous in the other.

"Our conception of the structure of the Universe", says William de Silter, "bears all the marks of a transitory structure. Our theories are decidedly in a state of continuous, and just now, very rapid evolution. It is not possible to predict how long our present views and interpretations will remain unaltered and how soon they will have to be replaced by perhaps very different ones, based on new observational data, and new critical insight in their connection with other data.²¹¹ Where from is this new critical insight to come except from a more evolved mind and brain ?

An affirmation of the same position comes from no less than an authority than Max Planck. He says : "How do we discover the individual laws of Physics, and what is their nature ? It should be remarked, to begin with, that we have no right to assume that any physical laws exist, or if they have existed up to now, that they will continue to exist in similar manner in the future. It is perfectly conceivable that one fine day Nature should cause an unexpected event to occur which would baffle us all; and if this were to happen we would be powerless to make any objection, even if the result would be that, inspite of our endeavour, we should fail to introduce order into the resulting confusion. In such an event, the only course open to science would be to declare itself bankrupt. For this reason science is compelled to being by

the general assumption by the general rule of law dominates throughout Nature". 212

Once the position is accepted, the conclusion becomes unavoidable that all the contexts of our day-to-day experience of the world the events which befall and the sights we see, the good and evil, noble and base, beautiful and ugly we meet, or the ideas of God, soul and the hereafter we entertain, all emerge from the unfathomable depths of our consciousness. This means that all we come across during the pilgrimage of life is not an objective reality, but a stupendous, realistic drama, presented by our own mind, and another enigmatic stuff, we call material energy the latter is becoming more and more of a paradox and the more we try to reach its bottom the more paradoxical and unpredictable it becomes. For all we know, it might be a twin brother of our mind, both off-shoots of the same tree or a projected image of mind itself. The corollary that follows this view of creation; forced on us by the latest concepts in physics, is that since our brain is the junction-point, where this incredible exchange between the mind and his brother takes place, it is to the brain that we must look for a solution of the mystery.

The matter does not end there. What should now become obvious, beyond doubt, is the fact that when contemplating a grand spectacle of nature, during the day, or the shimmering firmament at night, the sense of admiration, awe or wonder felt does not come from the magnificence, loveliness or the vast extent of these external objects, in inherent or dwelling in them, but from the grandeur, beauty and the immensity residing in our own consciousness. In other words, it is we who lend grandiosity, charm and vastness to an object, also horror, cheerfulness, humour or sadness to what appears to us as a dreadful merry, ludicrous or tragic scene. What the world will look like to a

mind, dead to emotions and bereft of the sense of beauty and colour. It is difficult to imagine.

This still does not complete the picture. The other conclusions that follows is that all the over four billion human creatures on the earth the multi-millionaire and the pauper, the kind and the beggar, the strongman and the cripple, the philanthropist and the thief, the beauty -queen and the leper, as long as they live, share the same incredible, wonder in their interior, as they share the sun, the moon, the stars, the air and water, the precious bounties of nature that make life possible on earth.

It is a staggering position. But there is nothing incongruous in what I say. The scriptures of all the current faiths point to the same conclusion. Since the soul is held to be immortal, incorporeal and divine, it must always stay immaculate, above the corporeality and the blemishes of the mortal frame. It would be blasphemous to say that there can be a sightless, lecherous, leprous or penniless soul. It is because of an impure frame of mind which attaches, more importance to the externals of religion than to its beatific interior that we are denied exce to the glory that dwells in all of us, irrespective of our station in life.

The main task of religion is to bring awareness of the divinity within to every human being. In this unique treasure of heaven no one is richer, stronger, superior or better than the other. This divine splendour all share alike, irrespective of their position, wealth, learning, intelligence, strength or looks. Like the brilliant orb of the day, it shines alike on the rich and the poor, the wise and the fool. The glaring differences and discrepancies, elegance and squalor, virture and vice or excess and want we see around, belong to the stage and the dress of clay and not to the devine actor, ever undefiled, like a

dancing beam of light. The aim of human life is to explore this "wonder" in every one of us whose pleasure ground is the universe.

This is the Message which for the last over three thousand years the exalted class of true mystics has brought to the world. This is the Message which juvenile science, at first cared not to heed like an impetuous youngster refusing to listen to his more seasoned elders, ultimately in his declining age to regret the rebellious thoughts of his early years. There are myraids who, in their closing days, review with sorrow their reckless youth. Were there no surprises and no innovations in the province of thought in store for the human wit in the ages to come, we should die of boredom in a few centuries. It is change that keeps her alive. The pendulum is now swinging in the other direction to usher in a new era of thought in which the spirit and not matter, the mystic and not the skeptic will dominate.

An indication of this change is provided by the thoughts expressed by many eminent scientists of recent times. This is a sample of one of them : "Yet I repeat once more," declares William James, " the existence of mystical states absolutely overthrows the pretention of non - mystical states to be the sole and ultimate dictators of what we may believe. As a rule, mystical states merely add a super -- sensuous meaning to the ordinary outward data of consciousness. They are excitements, like the emotions of love or ambition, gifts to our spirits by means of which facts, already objectively before us, fall into a new expressiveness and make a new connection with our active life. They do not contradict these facts as such, or deny anything that our senses have immediately seized. It is the rationalistic critic rather who plays the part of denier in the controversy, and his denials have no strength, for there can never be a state of facts to which new meaning may not truthfully be added, provided the mind ascends to a more enveloping point of view. It must always

remain an open question whether mystical states may not possibly be such superior points of view, window through which the mind looks out upon a more extensive and inclusive world. 213

The present day concepts of physics no longer contradict the experience of the mystic but, on the other hand, find it more consistent with the new insights into the nature of the physical world. This view has been expressed by many among the leading physicists of our time. "A rainbow described in the symbolism of physics", writes Eddington, "is a band of etheral vibrations arranged in systemic order to wave-length from .00004 centimeters to .000072 centimeters. From one point of view, we are pattering with the truth whenever we admire the gorgeous bow of colour, and should strive to reduce our minds to such a state that we received the same impression from the rainbow as from a table of wave lengths. But although that is how the rainbow impresses itself on an impersonal spectroscope, we are not giving the whole truth and significance of experience the starting point of the problem if we suppress the factors wherein we ourselves differ from the spectroscope. We cannot say that the rainbow, as part of the world, was meant to convey the vivid effects of color; but we can perhaps say that the human mind, as part of the world, was meant to perceive it that way." 214

Another eminent physicist James Jeans writes "In more recent times, Bertrand Russell has expressed what is essentially the same argument in the words. 'So long as we adhere to the conventional notions of mind and matter we are condemned to a view of perception which is miraculous. We suppose that a physical process starts from a visible object, travels to the eye, there changes into another physical process, causes yet another physical process in the optic nerve, and finally produces some effect in the brain, simultaneously with which we see the object from which the process started, the seeing being

something "mental", totally different in character from the physical processes which precede and accompany it.' This view is so queer that metaphysicians have invented all sorts of theories designed to substitute something less incredible.....

"Everything that we can directly observe of the physical world happens inside our heads, and consists of mental events which form part of the physical world. The development of this point of view will lead us to conclusion that the distinction between mind and matter is illusory. The stuff of the world may be called physical or mental or both or neither as we please ; in fact the words serve no purpose. 215

"Even if the two entities which we have hitherto described", continues Jeans, "as mind and matter are of the same general nature, there remains the question as to which is the more fundamental of the two. Is mind only a by-product of matter, as the materialists claimed? Or is it, as Berkeley claimed, the creator and controller of matter ?

"Before the latter alternative can be seriously considered, some answer must be found to the problem of how objects can continue to exist when they are not being perceived in any human mind. There must, as Berkeley says, be 'some other mind in which they exist.' Some will wish to describe this, with Berkeley, as the mind of God; others with Hegel as a universal or Absolute mind in which all our individual minds are compressed. The new quantum mechanics may perhaps give a hint, although nothing more than a hint, as to how this can be". 216

"It seems, at least, conceivable," Jeans adds, "that what is true of perceived objects may also be true of perceiving minds ; just as there are wave - pictures for light and electricity, so there may be a corresponding picture for consciousness. When we view ourselves in space and time, our consciousness

is obviously the separate individuals of a particle -- picture but when we pass beyond space and time, they may perhaps form ingredients of a single continuous stream of life. As it is with light and electricity, so it may be with life; the phenomena may be individuals carrying on separate existences in space and time, while in the deeper reality beyond space and time we may all be members of one body. In brief, modern physics is not altogether antagonistic to an objective idealism like that of Hegel". 217

In this book the author says, I know it will be hard for me to make myself understood, as I tread on unmapped territory in the effort to bring into focus in the province of religion and science both, a vital element that has been ignored so far, namely, the centre of life in the body, that is the brain. Since the organ is indispensable for all our activity and even existence in the human form, it is inconceivable that our consciousness can take a leap beyond its normal periphery without affecting its substance in any way. There is no historical precedent of a higher animal, say a horse ever attaining the mental stature of a human being, a co-mingling with otherhumans on a basis of equality. How can it then be possible for a human being to consort with gods without some kind of change in the brain? Those who long for self-awareness, clairvoyant gifts, miraculous power, communication with the spirit will, encounters with masters, or adventures in the occult realm would do well to give second thoughts to their cherished dream. The world did not produce another Christ or Buddha, Vyasa or Socrates, Plato or Mohammed, Rumi or Shankaracharya, Francis of Assisi or any other great mystic or master of the occult, because the mystery of the part played by the brain in these accomplishments remains unsolved so far. The aim of this writing is to make this hidden knowledge accessible to humanity.

In his paper 'Do Animals Feel Pain'²¹⁸ Peter Harrison suggest that the issue of animal pain is not so easily dispensed with an that the evidence brought forward to demonstrate that animals feel pain is far from conclusive.

Three kinds of arguments are commonly advanced to support the contention that animals feel pain. The first involves the claim that animal behaviours give us clues to alleged mental states, about what animals are feeling. Thus animals confronted with noxious stimuli which would cause human beings pain, react in similar ways. They attempt to avoid the stimulus. They show facial contortions, they may even cry out. From these "pain behaviours' it is inferred that the animals must be experiencing pain.

A second argument asserts that by virtue of a similarity in structure and function of nervous systems it is likely that human beings closely related to the human species will experience the external environment in much the same way. It is assumed, for example, that primates have visual experiences similar to our own, feel hunger and thirst as we do, and so on. Presumably when they encounter noxious stimuli, they, like us, feel pain.

A third line of argument is derived from evolutionary theory organic evolution implies that there is no radical discontinuity between human and other species. It is likely, on this view, that human minds evolved from animal minds, and that closely related species would experience similar mental events. The evolutionary model would also suggest that pain is an essential adaptation for organisms in that it helps them avoid those things which would reduce their chances of survival and reproduction.

An even more compelling illustration of the generation of certain mental states in the absence of appropriate structure comes from John Lober's engaging paper 'Is your Brain Really Necessary'?²¹⁹ Paediatric neurologist Lober reports on a number of individuals with hydrocephalusa a condition

which resulted in their having virtually no cerebral cortex. The most intriguing case cited by Lorber is that of a mathematician with IQ of 126. A brain scan revealed that this, young man had, in Lober's words, 'Virtually no brain'. The supratentorial part of the intracranial cavity contained only a thin layer of brain tissue, between one and two millimeters thick, attached to the skull wall. No 'visual cortex' was evident, yet the individual, who by all accounts should have been blind, had above average visual perceptions. It is likely that the functions which would normally have taken place in the missing cerebral cortex had been taken over by other structures. Cases such as this show that certain aspects of human consciousness have a tenacity which confounds our understanding of the link between brain structure and consciousness.

Lober's discoveries are a striking example of the fact that an advancing neuroscience, far from establishing concepts links between brain states and mental states, is actually deepening the mystery of how the brain is causally related to human consciousness. It need hardly be said that when we cross the species boundary and attempt to make projections about animals' putative mental lives based on the structures of their nervous system. We are in murky waters indeed. Two further examples illustrate this.

The brains of birds, such as they are, do not contain a 'visual' cortex' Thus if we are to argue that similar brain structures give rise to similar experiences, then it is unlikely that the visual experiences of birds will be qualitatively similar to our own. On the other hand, the behaviour of birds would seem to indicate that they can 'see'. While we assume from the behaviour of birds that their visual experience of the world is much the same as ours. If we are committed to the view that like mental states are generated by like brain structures, we are bound to admit that the assumption is unfounded. We might of course be tempted to revert to the first argument -- that

behaviour, not structure, give the correct cues to mental states. But this seems to commit us to the view that computers, flies, and amoeba have states of consciousness like our own.

Another illustration which concerns visual experiences is the much discussed phenomenon of 'blind sight'.²²⁰ As we have already mentioned, the visual or striate cortex is thought to be necessary for human vision. Individuals suffering from damage to the striate cortex may lose sight in part of their visual field. Larry Weisenkrantz and his colleagues have carried out a number of experiments on one such individual who claimed to be blind in his left field of view. Simple shapes were presented to the subject in his blind field of view. Though he denied being able to see anything, the subject could, with reasonable consistency, describe the shape of the object and point to it. In each instance he insisted that his correct response was merely a guess.²²¹ Examples of blindsight indicate, amongst other things, that it is possible to have visual experiences of which we are unaware. The blind sight phenomenon thus opens up the possibility that there might be non-conscious experiences to which we can nonetheless respond with the appropriate behaviour.²²² Blindsighted individuals can learn to respond as if they see, even though they have no conscious awareness of seeing something. The significance of this for a discussion of animal behaviours is that animals might respond to stimuli as if they were conscious of them, while in fact they are not. Thus birds which lack the human apparatus of conscious vision (as do blindsighted subjects) might not simply have qualitatively different visual experiences as suggested above, they might not have conscious visual experiences at all. It may be concluded that an animal's experience of stimuli which we would find painful might be qualitatively different (that is, not painful) or may even be nonconscious. Animals might react to such stimuli by

exhibiting 'pain behaviour' and yet not have that mental experience which we call 'pain', or perhaps not have any conscious experience at all. 223

So far our discussion of neural circuitry and how it relates to putative mental states has focused upon the inability of contemporary neuroscience to bridge the gap between brain and mind. There are those, of course, who have asserted that it is impossible in principle to bridge that gap. It is significant that Thomas Nagel, one of the chief spokesmen for this group, has alluded to animal consciousness to make his point.

In the seminal paper 'what is it like to be a Bat ?' 224 Nagel leads us into the subjective world of the bat. These curious mammals, he reminds us, perceive the external world using a kind of sonar. By emitting high -- pitched squeals and detecting the reflections, they are able to create an accurate enough image of their environment to enable them to ensure small flying insects, while they themselves are airborne. Nagel points out that we might observe and describe in detail the neurophysiology which makes all this possible, but that it is unlikely that any amount of such observation would ever give us an insight into the bat's subjective experience of the world -- into what it is like to be a bat. As Nagel himself puts it :

For if the facts of experience -- facts about what it is like for the experiencing organism -- are available only from one point of view, then it is a mystery how the true character of experience could be revealed in the physical operation of that organism. 225

Nagel thus asserts that the construction of subjective experiences from the observation of brain states is in principle impossible. 226

For our present purposes it is not necessary to enter into the argument about whether mind states are reducible to brain states. Suffice it to say that there is sufficient confusion about how brain structure and function relate to

mental states to rule out any simple assertion that animal nervous systems which resemble our own will give rise to mental states like ours.

It seems then, that pain, a mental state, can be neither perceived nor inferred by directing the senses on to behaviours or on to the brain itself. But what of the third argument for animal pain --- that based on evolutionary theory?

Evolutionary theory provides the most convincing case for animal pain. Because evolution stresses continuities in the biological sphere, it breaks down the distinction between human and animal. Thus any special claims made on behalf of the human race -- that they alone experience pain, for example -- require justification. Before examining how, in evolutionary terms, we might justify treating *Homo sapiens* as a unique case, we ought to consider first how animal pain might conceivably fit into the evolutionary scheme of things.

Natural selection 'designs' animals to survive and reproduce. An important sort of adaption for organisms to acquire would be the ability to avoid aspects of the environment which would reduce their chances of survival and reproduction. Pain, we might suppose play this adaptive role by compelling organisms to avoid situations in their world which might harm them. This view of the matter receives some measure of support from cases of individuals born with a congenital insensitivity to pain. Such unfortunate people frequently injure themselves quite severely in their early childhood, and must be taught how to avoid inflicting damage upon themselves. That such a condition can lead eventually to permanent disability or death would suggest that pain has considerable adaptive value for human beings at least.²²⁷ Animals which are similarly insensitive to damaging stimuli, we might reasonably infer, would have little chance of survival. Yet there are difficulties with this interpretation.

Strictly, it is not pain (real or imputed) which is the adaptation, but the behaviour which is elicited when the damaging stimulus is applied. Those who are insensitive to pain are not disadvantaged by the absence of unpleasant mental states, but by a lack of those behavioural responses which in others are prompted by pain. We tend to lose sight of the primacy of behaviour because we get caught up in the connotations of 'expression'. That is to say we consider some animal behaviours to be expressions of a particular mental state. Even Darwin, who should have known better, was guilty of this infelicity when he spoke of the 'expression of the emotions in man and animals'. Such locutions are misleading because they suggest certain aspects of animal behaviour are arbitrary outward signs which signify some conscious state. But the simplest application of the theory of natural selection would only allow that such behaviours as violent struggling, grimacing and erylng out, serve some more direct purpose in enhancing an animal's chances of survival and reproduction (Darwin admittedly stressed the communicative aspects, of these signs). To exploit another example which I have drawn upon in an another context a wildebeest which is being torn apart by dogs will die in silence, while a chimpanzee, will screech out in response to some trivial hurt like a thorn puncturing its foot.²²⁸ It seems that the chimp gives expression to its pain, whereas the wildebeest does not yet neither expresses its pain. Rather each behaves in a way likely to enhance the survival of the species. The chimpanzee communicates either to warn its conspecifics, or to summon aid. The wildebeest remains, silent so that others will not be lured to their deaths. It is the behaviour, rather than some hypothetical mental state, which adapts the organism.

Another linguistic usage which holds us in thrall is the language of 'detection' We assume that 'detection' entails 'conscious awareness of' this

leads us to believe that an animal cannot respond to a stimulus unless in some sense it consciously 'knows' what it has encountered. The reason such insectivorous plants as the venus fly trap capture our imagination is that they behave as if they are aware. How, we ponder, do they 'know' that the fly is there? Again we need to remind ourselves that the simplest of organisms are able to detect and respond to stimuli, yet we are not there by committed to the view that they have knowledge of beliefs. The same is true of more neurologically complex organisms. There is an important truth in that litany of behaviourists : animals acquire behaviours, not beliefs.

If it is granted that the behaviour rather than some postulated mental state is what adapts an organisms, we are next led to unique whether organisms might exhibit 'pain behaviours' without that attendant mental state which we call 'pain'. As we noted at the outset, many invertebrates to which we do not generally attribute feelings of pain exhibit 'pain behaviour'. In higher animals too, as we have already seen, it is possible that relevant behaviours might be performed in the absence of any conscious experience.

But is it probable ? Must pain be introduced to cause the behaviours or might these be caused more directly by the stimulus, or perhaps by indifferent conscious states ? We might at this point simply opt for the most parsimonious explanation. This is in fact the upshot of Lloyd Morgan's famous dictum: In no case may we interpret an action as the outcome of the exercise of a higher psychical faculty. If it can be interpreted as the outcome of one which stands lower in the psychological scale. ²²⁹ 'We must ask in other words, if we can explain all animals' reactions to noxious stimuli without recourse to particular mental states. Our blindsight examples show that it is possible for organisms to respond appropriately to stimuli in the complete

absence on mental states. If the general case is true, then the same might be said for the specific performance of 'pain behaviours' in the absence of pain.

The thrust of Morgan's canon can be reinforced epistemologically with the arguments of Descartes : As we know, Descartes' radical doubt led him to propose that all we can know for certain are the truths of logic and the existence of our own mental states.²³⁰ Fortunately one of the truths of logic was the existence of a god who could guarantee, to some extent, the veracity of perceptions of the world. Yet strict application of the criterion of doubt permits us to ascribe minds to other creatures only if they demonstrate (verbally), by signs, or by rational behaviour) evidence of mental activity. From the lack of such indications from animals, Descartes concluded that we have no evidence which would enable us legitimately to infer that animals have minds.²³¹ Not having minds, they cannot feel pain. Descartes thus provides epistemological grounds for denying that animals feel pain. ²³²

If we adopt the conservative stance of Morgan or Descartes, then it seems that we have no grounds scientific or philosophical, for asserting that animals feel pain. Yet this is a much weaker claim than the positive assertion that we have good reasons for believing that animals do not feel pain, or, to put it another way, that only human beings feel pain. ²³³

Certainly a reasonable case could be advanced that given our admitted ignorance, we have moral grounds for giving animals the benefit of the doubt. We shall return to this point later. For the moment, let us consider the positive statement of the case. Do we have reasons for believing that only human beings feel pain ? Or recasting the question in evolutionary terms, why should pain have adaptive values for the human species, if it would serve no purpose in other species ?

Pain is a mental state, and mental states require minds. Our inquiry, then, is in part an investigation of the selective advantage conferred by the possession of a mind. A mind's reflection in its own activities, amongst other things, enables us to predict the behaviour of other human beings, and to a lesser extent, animals. By reflecting upon our reasons for behaving in certain ways and by assuming that our fellow human beings are similarly motivated, we can make a predictions about how they are likely to behave in certain situations. But more than this by ascribing consciousness and intelligence to other organisms we can also make predictions about how they will behave. Such ascriptions, whether they have any basis in fact or not, can thus help the human species survive. As H.S. Jennings remarked almost ninety years ago: if any amoeba were as large as a whale, it is quite conceivable that occasions might arise when the attribution to it of the elemental states of consciousness might save the unsophisticated human from destruction that would result from lack of such attribution.²³⁴ Along with human self - awareness then, came a tendency to attribute a similar awareness to other creatures. That animals, intentions and pains like our own could be nothing more than a useful fiction which gives us a shorthand method of predicting their behaviour.

There is, then, some value in the belief that animals suffer pain, for it provides, a reasonably reliable guide to how they will behave. But it is not an infallible guide. If, for example, we were to pit ourselves against a chess - playing computer, the best strategy to adopt would be to act as if the machine were a skilled opponent, possessed of certain intentional states - a desire to win, particular beliefs about the rules, and so on. However, there might be occasions when it would be better to adopt another attitude towards the computer. Let us imagine that the computer was programmed to play at three levels - beginner, intermediate, and advanced. Set at the 'beginner' level, the

computer might show itself to be vulnerable to a basic 'fool's mate', so that whenever this simple gambit was used, it inevitably lost. A human opponent could thus be confident of beating the computer whenever he or she wished. Now this exploitation of the computer's weakness would result from the adoption of quite a different stance. No longer would the computer be treated as if it had desires and beliefs (or more importantly as if it had the ability to acquire new beliefs), for a human opponent in the same situation would quickly learn to counter the 'fools' mate'. Instead, predictions of the computer's behaviour would be based on the way it had been designed to operate. Thus, our wildebeest, on our intentional account, should exhibit 'pain behaviour'. Only when we adopt a 'design stance' (the animal was 'designed' by natural selection to behave in ways which would enhance the survival of the species) do we get a reasonable explanation of why it dies in silence. ²³⁵ The general point is this. The ascription to animals of certain mental states usually enables us to predict their behaviour with some accuracy (such ascription increasing our own chances of survival). But there will always be instances where this intentional model will break down and explanations which refer to selective advantages will be preferred.

Another reason for attributing pain experiences only to human beings is to do with free - will and moral responsibility. While there has been some dispute about whether animals ought to be the object of our moral concern, we do not usually consider animals to be moral agents. Animals are not generally held to be morally responsible for their own acts, and notwithstanding some rather odd medieval judicial practices, animals do not stand trial for antisocial acts which they might have committed. What is absent in animals which is thought to be crucial to the committing of some wrong is the mens rea -- the evil intent. Animals are not morally responsible for the acts they commit

because while they may have behavioural dispositions, they do not have thoughts and beliefs about what is right and wrong, nor can they, whatever their behavioural disposition, form a conscious intent. Or at least, so we generally believe. Animals, in short, are not 'free agents', and this is why they are not regarded as being morally responsible. But what does the determined nature of animals behavior have to with pain? Simply this, that if animals' behaviours are causally determined, it makes no sense of pain as an additional causal factor.

One way of seeing the force of this is to explore some of the contexts in which we use the term 'pain'. There are many ways we have of talking about pain which exclude animals. Consider the following : (1) 'For the long - distance runner, it is a matter of mind over matter. He must break through the pain barrier' (2) 'The hunger striker finally succumbed and died'. (3) 'Even though she knew it would mean a horrible death at the stake, she refused to recant'. (4) 'The pain became unbreable. He cried out'. If we attempt to substitute animals for the human agents in these statements, the result becomes complete nonsense. Our inability to fit animals into the logic of these expressions is not merely because animals are not (contingently) long - distance runners, or hunger strikers, or religious martyrs. The key lies in statement. (4) We must ask : Do animals ever find pain unbreable? and, what reasons could they have for bearing it?

Consider this sentence in which a suitable substitution might be made. 'The man's hand reached into the flames, and was immediately withdrawn with a cry'. We could easily substitute 'ape' for 'man' here and the statement will retain its sense. But what about this : 'The man plunged his hands into the flames again, knowing that only he could reach the valve and stem the flow of petrol which threatened to turn the sleepy village into an inferno'. Now the

substitution becomes impossible, for. What could conceivably cause the ape to plunge its hand back into the flames? Nothing, I suspect, for apes do not have reasons for bearing pain.

Now it may seem unsatisfactory to proceed on the basis of certain linguistic practices to make some claim about how things really are. (This, I suspect, is why Anselm's ontological argument always leaves one feeling a little uneasy). But the exclusive nature of the grammar of 'pain', or more correctly of 'bearing pain', reveals the unique province of pain. Pain operates as one kind of reason which free agents are bound to take into consideration when they decide on a particular course of action. Pain can be borne if there are reasons. But an animal never has reasons either to bear pain, or to succumb to pain. And if pain never need be brought into the sphere of reasons - the mind - then there is no need for it, qua unpleasant mental event, at all. Thus, while it is undeniable that animals sense noxious stimuli and react to them, these stimuli only need be represented as unpleasant mental states if they are to become the body's reasons in the context of other reasons. Only as various degrees of unpleasantness can they be taken seriously amongst reasons, and this only necessary in the mind of a rational agent.

Another way of thinking about this is to consider the attribute of the long distance runner, the hunger striker, the martyr, the hero of the sleep village. We could say that they had mental strength, great courage, or moral character. But we would never predicate these of animals. The wildebeest dies silently and does not endanger the herd. But does it die courageously? Does it bear the pain to the end? Does it have a reason for remaining silent? No, because it does not have a choice. All wildebeest behave in this fashion. And if it does not have a choice, there is no requirement for the dismemberment of its body to be represented mentally as pain.

Pain is the body's representative in the mind's decision - making process. Without pain the mind would imperil the body (as cases of insensitivity to pain clearly show) But without the rational decisions - making mind, pain is superfluous. Animals have no rational or moral considerations which might overrule the needs of the body. It is for this reason that Descartes referred to pain, hunger and thirst as 'confused modes of thoughts' which can only be predicated of creatures which can think.²³⁶

In his article Tolstoy, Death and the meaning of life,²³⁷ Roy W. Perret says that questions about the meaning of life have traditionally been regarded as being of particular concern to philosophers. He further says that it is sometimes complained that contemporary analytic philosophy fails to address such questions, but there do exist illuminating recent discussions of these questions by analytic philosophers.²³⁸ Perhaps what lurks behind the complaint is a feeling that these discussions are insufficiently close to actual living situations and hence often seem rather thin and blind compared with the vivid portrayals of such situations in autobiography or fiction. I therefore want to focus on two works by Tolstoy - one autobiographical, one fictional - and try to see what philosophical lessons can be learned from them, particularly with regard to questions about the relation of death to the meaning of life.²³⁹

Tolstoy's *A Confession* (1879) is a vivid record of his own crisis connected with his search for the meaning of life. He tells how in middle life, in full possession of all his physical and mental powers, a happy man with family, wealth and fame, he suddenly suffered an 'arrest of life' as he began to ask himself, 'what is it for what does it lead to ? (p. 15). And to these questions he could find no answer that satisfied him in the face of his own inevitable death. His family and his art, which had formerly been the center of his life, could no longer provide meaning to life in the face of death:

Today or tomorrow sickness and death will come (they had come already) to those I love or to me; nothing will remain but stench and worms. Sooner or later my affairs whatever they may be, will be forgotten, and shall not exist. Then why go on making any effort? (pp. 19 - 20).

He studied science and philosophy hoping for some aid but to no avail. The experimental sciences seemed to him to refuse to acknowledge his problem, addressing themselves instead to their own independent questions. Philosophy, on the other hand, while recognizing his problem as legitimate seemed to have no answer. Indeed, as Tolstoy puts it, 'though all the mental work is directed just to my question, there is no answer, but instead of an answer one gets the same question, only in a complex form (p. 30). Hence the question he had posed himself remained unanswered. 'Is there any meaning in my life that the inevitable death awaiting me does not destroy?' (p. 24).

In his despair it seemed to him that there are only four possible responses. The first is not understanding that life is absurd. But this was obviously not available to Tolstoy himself since 'one cannot cease to know what one does know' (p. 39). The second, adopted by the majority of his circle, is 'epicureanism', i.e. making the most of the pleasures of life while recognizing its ultimate hopelessness. But such conduct Tolstoy found himself unable to imitate, lacking the requisite 'dullness of imagination'. The third option is suicide and this seemed to Tolstoy the 'worthiest way of escape' (p. 41). But it was the fourth way, that of 'weakness', that he himself adopted. To his self-disgust he found himself 'seeing the truth of the situation and yet clinging to life, knowing in advance that nothing can come of it (P. 41).

At this point in his personal story Tolstoy's thoughts suddenly take a different turn.

The reasoning showing the vanity of life is not so different, and has long been familiar to the very simplest folk : yet they have lived and still live. How is it they all live and never think of doubting the reasonableness of life? (P. 43).

Thus he infers that " there is a whole humanity that lived and lives as if it understood the meaning of its life, for without understanding it, it could not live' (p.43). This led him to break away from his own narrow circle of social equals in order to attend to what the simple folk had to teach him. And this in turn led him to conclude that :

Rational knowledge presented by the learned and the wise, denies the meaning of life, but the enormous masses of men, the whole of mankind, receive that meaning in irrational knowledge. And that irrational knowledge is faith. (p. 47).

But in this conclusion he found no comfort, for 'it appears that in order to understand the meaning of Life I must renounce my reason, the very thing for which alone a meaning is required '(p. 47) that is, though the problem of the meaning of life can only arise for a rational being, it is hardly a solution to it to abandon rationality.

In the face of this paradox he tries to clarify the distinction between 'rational knowledge'. In terms of rational knowledge he now recognizes why his question is unanswerable.

The solution of all the possible questions of life could evidently not satisfy me, for my question, simple as it at first appeared, included a demand for an explanation of the finite in terms of the infinite, and vice versa (p. 48).

The answers given by faith, however, though 'irrational and distorted' attempt to provide such a relation between finite and infinite, which is unavailable through rational knowledge and yet 'without which there can be no solution ' (p. 49). Consider the catechism :

How am I to live - According to the law of God. What real result will come of my life? - Eternal torment or eternal bliss. What meaning has for that death does not destroy? - Union with the eternal God : heaven (P.50)

But faith is not to be identified with these propositional elements so far as Tolstoy is concerned, for he admits these 'answers' to be 'irrational and distorted'. Rather 'faith is knowledge of the meaning of life in consequence of which man does not destroy himself lives' (P. 51).

Though faith is not to be identified with these proportional elements, they are nevertheless still involved. Tolstoy says 'I was now ready to accept any faith if only it did not demand of me a direct denial of reason - which would be a false hood' (pp. 53 - 54). But inevitably he found himself confronted with rival faiths and interpretations so that reason is once again introduced to his prolonged and serious study of the Gospels and Theology.

Tolstoy's position on faith is very much in keeping with modern nonpropositional accounts of revelation and faith.²⁴⁰ He is opposed to the traditional propositional account that makes faith the acceptance of a body of propositional truths which are not accessible to human reason. This view posits an evidential gap between revealed truths and the truths of natural theology. That in turn typically leads to an emphasis on the role of the will in religious faith, for volitional response is supposed to bridge the gap. Faith becomes the willing to believe something that cannot be known through reason (Tolstoy's 'irrational knowledge'). But this is not the view of faith Tolstoy himself wants to embrace. Rather for him faith is an experiencing of the world as significant. It is not therefore opposed to rational knowledge, as it is on the propositional account. While reason is not allowed to displace experience as the source of the basic data, it is involved in the systematic formulation and criticism of what is believed on the basis of faith. Faith then is a non -

propositional knowledge of how to live, though this knowledge may imply certain propositions that are open to rational criticism. This account of faith has become widespread within protestant Christianity in this century and it accords well with Tolstoy's own radically protestant attitudes to scripture and theology as expressed in *What I Believe*.

This resume of Tolstoy's argument is brief and fails to capture the power of the original. However, let us pause to consider more closely, two important philosophical points that arise. In the first place recall Tolstoy's claim that the peasants must understand the meaning of life, since without understanding it they could not carry on as they do. Now it might seem that there is no reason why the peasants should not just carry on and spend their time as Tolstoy had spent the first fifty years of his life, ignoring the suspicion that there is any problem about meaningfulness. To this Tolstoy would presumably reply that the peasants lack the opportunities for diversion which enabled him to avoid facing the problem squarely for so long. Antony Flew, however, has challenged Tolstoy's original inference here on other grounds.²⁴¹ Flew suggests that though the peasants do not suffer from Tolstoy's 'arrest of life', this does not imply that they possess some knowledge of life's meaning that Tolstoy does not. Flew invokes Ryle's distinction between knowing how and knowing that : 'the peasants may indeed know how to live their lives free of all sophisticated psychological disabilities, but this by no means presupposes the possession of any theoretical knowledge not vouchsafed to their unfortunate social superiors. (pp. 162 - 163). The secret that the peasants have and Tolstoy lacks is not the knowledge that things are thus and thus, but the knowledge how to go on living and in this case Flew claims, this is 'only another way of saying that they all enjoy rude mental health' (p. 164).

This analysis is not fully convincing. It is true that to know the meaning of life is to know how to live (as Tolstoy did not at the time of his crisis), but it is not clear that to admit this is to rule out the possibility that some knowledge that is nevertheless involved here. This is because of the epistemic point that knowledge how and knowledge that are not as entirely unrelated as Flew's analysis suggests. If I know how to speak Japanese this knowledge how need not be reducible to a set of knowledge that statements. None the less, the truth of the claim 'I know how to speak Japanese fluently' generally implies the truth of other sentences like 'I know that the Japanese word for cat is "neko" and so on. Or again, if we think of knowledge how as knowledge of a technique (like the craftsman's knowledge) we generally imply that the knower has some understanding of the principles involved in the activity in question. He may not actually be able to articulate these principles in practice, but they are nevertheless theoretically formulable. In other words, knowing how implies some knowing that even if knowing how is not reducible to knowing that :

Nor will it do to weaken the sense of 'knowing how' used here in order to try to save the analysis. As Ronald Hepburn acknowledges, there is a weak sense of 'knowing how' used in ordinary language such that it is applicable to the baby who knows how to cry or even the bird that knows how to build a nest ²⁴². But this is not enough for Flew's analysis to hold. In the first place it is surely misleading to call these latter types of cases instances of knowing how at all. Rather we need to draw a distinction between knowing how to do something and being able to do it. It seems preferable to reserve 'knowing how' for cases where the knower has some implicit understanding of the principles involved in the activity. I am able to bend my forefinger but I do not know how to do this similarly animals are able to do many things but it seems reasonable to be agnostic about whether they knew how to do these things. In

the second place, even if we conclude that this weak sense of 'knowing how' is indeed knowing how, then we lose an important dimension of the problem that such 'knowledge how' is being claimed to be the solution of. As Heppburn points out (pp. 215 - 216), the knowledge how that the peasants have on this interpretation of 'knowing how' is no longer the knowledge Tolstoy was searching for, because their 'knowledge' is too unproblematic to be a solution to his problem. It is the dimension of a problem struggled with and solved that is lacking in this case.

The second point I want to comment on in Tolstoy's account is the way in which he might seem to assume that the finality of death entails the meaninglessness of life. Flew takes him to task for this. Pointing out that it is by no means obvious that 'nothing can matter unless it goes on forever; or at any rate, eventually leads to something else which does' (p. 160). Now Flew is surely correct in saying that we value some things precisely because of their transitoriness : consider the Japanese cult of the cherry blossom. And again, think of Tolstoy's question 'what for ?' asked of activities like his work on his estate, or the education of his son, or the writing of a book (p. 16). If what is being assumed is that an intelligible justification for these activities must lie in something that goes on forever, something outside mortal life, then this is also wrong just how would Tolstoy's immortality have justified these activities ? Furthermore, if these immediate activities can be called into question, then so too can any larger scheme of justification that is put forward as giving point to these activities.

But clearly Tolstoy was aware of this. Doesn't it indeed generate his crisis ? So Flew is wrong to claim that Tolstoy contends that 'our lives can have meaning only on the assumptions of the existence of God and of human immortality' (P. 154). The catechism from A confession (P. 50) which Flew

Quotes is not Tolstoy's own view. As I have pointed out, it is offered as an illustration of the irrational and distorted' replies given as propositions to be believed on faith, where 'faith' is interpreted in the traditional propositional sense. Moreover in his later work *What I Believe* (ch. VIII), Tolstoy denies that christianity should involve any belief in physical resurrection and sternly renounces the idea that immortality is a necessary condition of the meaningfulness of life. Similarly Tolstoy's own doctrine of God is a rather thin demythologized one. Flew himself notes that Tolstoy's faith is an idiosyncratically attenuated form of christianity. Nor is Tolstoy guilty of any obvious muddles about the limits of explanation and justification; consider this passage towards the end of *A Confession* where he tries to express the special character of the religious knowledge that gives meaning to life :

I shall not seek the explanation of everything, I know that the explanation of everything must be concealed in infinity. But I wish to understand in a way which will bring me to what is inevitably unexplicable. I wish to recognize anything that is unexplicable as being so not because the demands of my reasons are wrong (they are right, and apart from them I can understand nothing), but because I recognize the limits of my intellect. I wish to understand in such a way that everything that is inexplicable shall present itself to me as being necessarily inexplicable and not as being something I am under an arbitrary obligation to believe (pp. 80 - 81).

Hence Flew's interpretation is too ungenerous a reading of Tolstoy's views on death and meaning. In *What I Believe*, Tolstoy wisely remarks : 'To live rationally one must live so that death cannot destroy life' (P. 430). *A Confession* records the experienced collapse of the supposed rationality of one man's life in the face of the realization of his own inevitable death. the life

Tolstoy was living was one that death would defeat, built as it was upon attachment to his family and his art -- attachments conquerable by death :

I felt that what I had been standing on had collapsed and that I had nothing left under my feet. What I had lived on no longer existed, and there was nothing left (P. 17).

The possibility of living a life not built upon attachment of this sort is the goal before us. And to know how to live such a life is to discover the meaning of life. That this seems platitudinous should not surprise us. The knowledge that involved in knowing the meaning of life may simply be some truth as unsurprising as this. This is why knowledge that is not sufficient to live meaningfully; we also have to know how to live in terms of this knowledge that. There is a parallel here with our experience of art. When pressed to say what we have learned from a work of art we often can only come up with some platitude. We can only say we know that P, where P, is some proposition we surely already knew to be the case. But perhaps what we are sometimes trying to say is that although we already knew that P, now we know how to operate with our knowledge that. If this is so then it is no accident that many of these matters are illuminated for us in Tolstoy's great story: *The Death of Ivan Ilych* (1886). 243

In *A confession*, Tolstoy tells how his questions 'what is it for' what does it lead to? Seemed at first of no real relevance. But their continual reappearance began eventually to disturb him as 'like drops of ink always falling on one place they ran together into one black blot' (p. 16). He immediately follows this simile with a striking passage :

Then occurred what happens to everyone sickening with a mortal external disease. At first trivial signs of indisposition appear to which the sick man pays no attention; then these signs reappear more and more often and

merge into one uninterrupted period of suffering. The suffering increases and, before the sick man can look round, what he took for a mere indisposition has already become more important to him than anything else in the world -- it is death (P. 16).

The prefiguring of the Death of Ivan Ilych is remarkable.

The Death of Ivan Ilych tells of a man suffering from fatal illness who sees that in the face of his imminent death the life he has led is to be judged meaningless. Although it is Ivan's life that the story presents for us, it is also quite clear that his case is to be viewed as an entirely typical one : "Ivan Ilych's life had been most simple and most ordinary and therefore most terrible (P. 11). Appropriately he had been a member of the court of Justice and, as he had judged others, so he is forced to come to judge himself. His life had been a story of steady and reliable progress in his own sphere of government legal appointments. He had always done his duty as it was expected of him for 'he considered his duty to be what was so considered by those in authority will similarly do their duty by him and steadily promote him. And this expectation is duly satisfied. Although he briefly suffers one unpleasant setback in his career expectations, in his eyes order is soon restored and he is appointed to the position of power he sees as his due : 'after a stumble, his life was regaining its due and natural character of pleasant lightheartedness and decorum' (p. 34). But at the height of his triumph he suffers an apparently trivial accident -- 'he made a false step and slipped' (p. 26) -- that brings on an internal illness which eventually proves fatal. He is confined to bed and forced to confront his imminent death. In the face of this he realizes that the life he has led is empty.

When Ivan first realizes that he is dying his reaction is one of despair; for 'not only was he not accustomed to the thought, he simply did not and could

not grasp it' (P. 44). Although he must have known that he was to die some time, he has never really lived in terms of that knowledge. Death is something that happens to other people :

The syllogism he had learnt from Kiezewether's Logic : 'Caius is a man, men are mortal therefore caius is mortal', had always seemed to him correct as applied to caius, but certainly not as applied to himself. That caius man in the abstract -- was mortal, was perfectly correct, but he was caius, not an abstract man, but a creature quite quite separate from all others (pp. 44 - 45).

Ironically in the opening pages of the story we see Ivan's one -- time colleagues treating Ivan's own death in an identical fashion, complacent that 'it is he who is dead and not I' (p. 2). Schwartz winks at Peter Ivanovich ' as if to say : "Ivan Ilych has a mess of things -- not like you and me" ' (p.3). And Peter Ivanovich sees in the expression on the corpse's face a warning to the living that seems 'out of place, or at least not applicable to him' (p.5) When told of Ivan's terrible sufferings in his last days Peter Ivanovich pauses for an instant :

'Three days of frightful suffering and then death ! Why, that might suddenly, at any time, happen to me', he thought and for a moment felt terrified. But -- he did not himself know how the customary reflection at once occurred to him that this had happened to Ivan Ilych and to him and that it should not and could not happen to him. After which reflection Peter, Ivanovich felt reassured, and began to ask with interest about the details of Ivan Ilych's death, as though death was an accident natural to Ivan Ilych but certainly not to himself (p. 9).

This is the spirit of deception that screened Ivan from his own death until it was imminent and caused his family to try to deny that his dying was really happening.

The awful terrible act of his dying was, he could see, reduced by those about him to the level of a casual, unpleasant, and almost indecorous incident (as if someone had entered a drawing - room diffusing an unpleasant odour) and this was done by that very decorum which he had served all his life long. (pp. 51 - 52).

The only exception to this falsity, this refusal to recognize death as inevitable for everyone, is the peasant lad Gerasim who serves Ivan in his last days. It is Gerasim who reminds Peter Ivanovich at the beginning of the story : 'It's God's will. We shall all come to it some day' (p.11) And it is Gerasim who says frankly to Ivan :

'We shall all of us die, so why should I grudge a little trouble?' -- expressing the fact that he did not think his work burdensome, because he was doing it for a dying man and hoped someone would do the same for him when his time came (p. 52).

But for Ivan, whose whole way of life has screamed him from having to face this truth about death, dying is an incomprehensible and terrible business. He comes to realize that the life he had felt to be pleasant is in fact 'something trivial and often nasty' (p. 63). As he looks back on his it begins to seem to him that only in his childhood is there something worthwhile. Everything else is a gradual decline :

It is as if I had been going downhill while I imagined I was going up. And that is really what it was, I was going up in public opinion, but to the same extent life was ebbing away from me. And now it is all done and there is only death (p. 64).

In the face of this realization Ivan experiences life as 'Senseless and horrible' and in terror searches for some meaning to it all. Then he glimpses something :

'May be I did not live as I ought to have done', it suddenly occurred to him. 'But how could that be, when I did everything properly?' he replied, and immediately dismissed from his mind this, the sole solution of all the riddles of life and death, as something quite impossible. (p. 64).

It takes Ivan quite some time to admit that his flawlessly correct life is not the life he ought to have lived, to see that 'all that for which he had lived was not real at all, but a terrible and huge deception which had hidden both life and death' (p. 69). As he resists this notion he screams, 'I won't' and then just, 'Oh! Oh!' as he feels himself being forcibly thrust into a black hole. The screaming continues for three days until on the third day he stops :

'Yes it was all not the right thing?' he said to himself, 'but that's no matter. It can be done. But what is the right thing?' he asked himself and suddenly grew quiet (p. 72).

At this point he becomes aware of the suffering he is causing his family as he catches sight of his distraught son and wife. Then the answer to his question, 'what is the right thing?' becomes clear :

And suddenly it grew clear to him that what had been oppressing him and would not leave him was all dropping away at once from two sides, from ten sides, and from all sides. He was sorry for them, he must act so as not to hurt them : release them and free himself from these sufferings (p. 73).

And now 'in place of death there was light'. Ivan says to himself ? 'Death is finished It is no more ! and he dies.

Ivan had built his life upon attachments conquerable by death. This is why he suffers so much in the face of death, for what he has lived for is rendered meaningless by death :

This is wrong, it is not as it should be. All you have lived for and still live for is falsehood and deception, hiding life and death from you (p.70).

His life had been built upon his desire for control and power. Hence his distress at minor flaws in the environment he has created --- a stained table cloth, a chipped plate, a scratched table, or even the way his daughter's hair is done (pp. 27, 31, 47). His increasing concern with his illness results in a corresponding sensitivity to any lack of control :

He had formerly borne such mischances, hoping soon to adjust what was wrong, to master it and attain success, or make a grand slam. But now every mischance upset him and plunged him into despair. (p. 35).

But it is the letting go of such control that is required. Death inevitably defeats such control and the attempt to hold on to it in the face of death causes Ivan terrible suffering. It is only when he recalls the suffering. It is only when he recalls the suffering of his family and desires to 'release them and free himself from these sufferings' (p. 73) that the fear of death leaves him. Then 'in place of death there was light'. Until then the kind of life he has led has screened him from the reality of death and the way in which it will destroy all he has built his life on. When he glimpses this truth about death he is horrified and resists this knowledge. But eventually he admits it, together with the associated judgement of the meaninglessness of the life he has led. He considers not himself and his control and power, but other people. Having forgone this old desire for control and power, he can say to himself, 'Death is finished It is no more', for now death cannot defeat him.

How does this connect with our original questions about death and the meaning of life? First, it is the knowledge of death that once again generates the crises. Ivan (like any adult person) must know that he will die, but since he refuses to face this fact he has no idea of how to live in the light of it. He does not know how to live. In the face of his death he comes to know that the way he has lived is wrong, for his death renders meaningless the life he has led by

destroying that to which he is so attached. Viz. power and control. Once again it is the peasants who provide us with a positive paradigm. In this case it is Gerasim, who knows that he will die as will we all and who knows how to live in terms of this knowledge. He does not grudge Ivan his services but just sees them as what is needed by a dying man and hopes that some day someone will do the same for him.

We need to draw a distinction between what I shall call the 'objective' meaning of a life and the 'Subjective' meaning. (This terminology need not commit us to any particular position on the objectivity or subjectivity of value in general). A life can have subjective meaning in so far as it instances states of value for the person whose life it is. Thus pleasure can confer subjective meaning on a life in this ways, though sickness and death will rob a life of such subjective meaning -- not in the sense of making it no longer eternally true that the life instanced pleasure at some time, but in the sense that the life instanced pleasure at some time, but in the sense that the life does not now instance pleasure. This devaluation of a life is quite compatible. With the truth that this does not render the life valueless while it is pleasurable. If a life as a whole is only subjectively meaningful its value ceases when the life ends. But a life can also have objective value in so far as it instances states of value for others, and death does not destroy such values in the way it destroys subjective value. Personal pleasure can only have subjective value in this sense, and this is why Nero's pleasures are no longer significant since Nero's death. Other states like compassion can instance value for others and hence not be devalued by death as are subjectively valuable states like pleasure.

Worries about the meaning of life are typically worries about how to integrate both senses of 'meaning' ; that is to live a life which instances objective meaning that is not destroyed by death and also to enjoy such a life

as affording subjective satisfaction to the person who leads it. The life that Ivan Ilych led before his illness was one that instanced only subjective meaning. It was built upon the values of 'pleasant light heartedness and decorum' (p.24). He had been able to incorporate temporary set backs precisely because he had always believed things would soon be restored to their even tenor. Death brings home to him the realization that the subjective meaning his life has cannot guarantee objectively for it and such subjective meaning as it has will be destroyed by his death.

Understanding the meaning of life does indeed involve knowledge how. But in relation to death it also involves, (as knowledge how generally does), knowledge that. In this case the knowledge that we shall all die ought to lead us to the obvious conclusion that it would be irrational to build our lives on what can be destroyed by death. A confession and the Death of Ivan Ilych record instances of men coming to the knowledge that their lives are so built and hence rendered meaningless by death. Knowing how to live a life not so built, knowing how to integrate the subjective and objective significance of a life, is what is involved in understanding the meaning of life. An important of such knowledge how (a part Tolstoy dwells upon to great effect), is the knowledge that we shall all die and that 'to live rationally one must live so that death cannot destroy life'. Tolstoy sees the peasants like Gerasim as having such knowledge. As to the prospects of others gaining such knowledge, Tolstoy seems pessimistic. Ivan gains it only after terrible suffering and too late for him to do more than die well. And at the start of the story we see that Ivan's family and colleagues have learned nothing from his death. Presumably the only hope is that the reader of the story might learn something from Ivan's death. It might well turn out in the end that the 'Ile' of the last chapter will be the reader, the person who Tolstoy hoped would understand.

In his article 'Is life Absurd?' --²⁴⁴ Jonathan Westphal and Christopher Cherry says that Thomas Nagel believes, with some existentialists that life is absurd. ²⁴⁵ Bertrand Russell says 'Brief and powerless is man's life : on him and all his race the slow sure doom falls pitiless and dark. Blind to good and evil, reckless of destruction , omnipotent matter rolls on its relentless way. ----
- ²⁴⁶ To avoid this cosmic Version of the external perspective, all we have to do is to recognize it for the colourful rubbish it is.

In this connection one is reminded of the concept of subjectivity in Kierkegaard's philosophy. ²⁴⁷ Subjectivity is a key concept of Kierkegaard's Philosophy. It opens our view to his entire thought -- process, and helps us to realise the significance of his contribution to the growth, of philosophy in the west. Not only is his influence pervasive but also his relevance is being increasingly recognised in the current context of the age of technology and science. Man's loss of faith ²⁴⁸ in his destiny, in the uniqueness of his individuality, his freedom ²⁴⁹ and sense of values and moral responsibility is indeed too terrifying to imagine. He needs a fresh philosophical reflection and analysis of his vital concerns, and salvaging of his faith in his own, self, which has been lost under the debris of scientific universalism and socialistic massiveness. Kierkegaard seems to be more relevant now than he was in his own age.

Kierkegaard is not against science and its objective criterion of truth. He is, however, opposed to scientism, which seeks to reduce even man to objectivity; makes man to look as if he were an object in a mass of objects, not governed by anything from within his own self, but by the laws of nature like the laws of biological evolution or the law of gravitation. Such a man loses all dignity and freedom, even his selfhood. He cannot own any responsibility for his acts.

According to Kierkegaard, subjectivity is the truth of man who, as an authentic being can act as a free agent, own ethical responsibility for his actions and make as a free choice the greatest commitment of his life. This commitment of free choice with faith is his religion. Kierkegaard, as a matter of fact, restores religion to its proper place, which, though, in the current context, has become a lost force or a mere ritualism.

Hegel's rationalism is the source of Man's self-alienation. He has become a stranger unto himself in the vastness of the universe. Scientific study of man has also resulted in his complete objectification. With his great powers and with erosion of faith in his spiritual destiny and moral responsibility, the world has to experience the trauma of the First World War. Nobody wanted the war, and yet no one could prevent it. This only proved man's helplessness as a creature of circumstances created by himself. So the serious thinkers the world over were rudely awakened by man's self ----- estrangement. It was at this stage that Kierkegaard was remembered, and the existentialist movement of philosophy took shape. In this sense, he can be regarded as the source of inspiration of existentialism with its many variants. He has inspired and influenced his successors, as he goes back to his predecessors to the Greek past of Europe's history.

This stress on the subjective nature of the self sounds peculiar to the Western thought in general. Right from the age of Aristotle, the history of European philosophy has been dominated by such concepts as universality, objectivity and extra -- validation. Even christain theology accepted the Aristotelian norms of truth. Plato was idealistic, but even his supermundane Idea was universal and transcendal. In Descartes, we first discover a sign of revolt against the dogmatism in religion and philosophy. He takes note of the mind and experience. But his mind is not the subject or self par excellence,

and his shift in approach is only methodological rather than metaphysical. His philosophy led to an objective universal Idealism, of spinoza, Leibnitz, etc., or to solipcism and nihilism of Hume. The mind of the modern emperical sciences was also an object seeking its truth and validation from outside self.

The worse happened under the impact of nationalism, particularly, under the Hegelian brand of it. What is the place of the human self as a free, creative subject, as master of its own thoughts and agent of its actions. The universal, absolute reason is something into which the subject as self is completely merged and dissolved. That is its final destiny and realisation. All its doings and thinkings, its judgements and decisions melt in the oven of the universal reason. The individual derives his being from it and returns to it in final synthesis. This is denial of the subject rather than its affirmation.

Science completed the process of self alienation, which began with the empirical thinking of Bacon, etc. The self and its property like consciousness do not exists because these are not experienced as objects. Its esse est percipi as Berkely taught, then the thinking, acting deciding grieving and enjoying kind of self has no existence since it is not an object of perception. Hume was right when he pursued the first principles of his logic to its limits declare that there is no my mind, no matter. Nothing exists except a chain of ideations. This was a last blow to subjectivism, given the final burial by Scientism declaring that no proof, empirical or rational is available to establish that men exists at all except as a part of evolutionary process. The process itself is universal and objective, natural and necessary. And, thus disappeared the free creating man, master of his destiny and responsible for his doings and decisions. Self -- alienation was complete.

The contemporary empiricist schools, i.e. Logical positivists, Logical Empiricists, Scientific Empiricists or Analysts are moving away from speculative philosophy and towards exact sciences.

At present philosophy shows an excessive zeal for scientific principles, postulates and methods. It means that the contemporary philosopher is tempted towards the objectivity, verifiability, accuracy, certainty and universality in his philosophical system. Therefore, he also shuns the subjective element in philosophy and seems to veer deftly away from the metaphysical, the ethical and the religious problems. The metaphysical propositions seem to be meaningless for a Logical empiricist. The subject, the thinker himself, is being ignored in this thought. Even pragmatism contains nothing positive beyond the pleasant desire to make things comfortable because a pragmatist is afraid to face the evil.

There are also some contemporary philosophical systems which though take up the problem of 'man', they are becoming more and more socially -- oriented. In medieval period, importance was attached to God. The modern philosophy tries to base the philosophical systems on scientific grounds, and so they could not do justice to the 'existence' of man. This rationalistic attitude towards the human -- problems got its highest fruit on in Hegelianism, where the existence of man was only conceptual. At present, with some exceptions, the philosophical systems try to get rid of the conceptual man. The present philosophical trend attaches due importance to the human existence, but in the social environment. Life other science and humanities, philosophical problems are also becoming national and international. This widening of the sphere of the problems is making philosophy the philosophy of men. In this attempt, the danger is that man's individuality and his uniqueness may again become submerged under the mass of social milieu. Humanism is the example of this

tendency. Men in plural, or humanity as a whole may be saved, but man as singular, individual is lost under debris of 'Socialistic' thought.

"The present generation is intensely self -- conscious. It has a profound sense of historic importance But its acceptance of the historic role is not with the ease, confidence and complacent assurance of its predecessors : rather it is faltering and fearful, charged with the anxiety that has become so dominant a characteristic of the present temper..... the deepening solicitude for the future..... has displaced the claim assurance of progress that marked the theories of a half - century ago. For the nineteenth century's faith in the saving power of science and education has retreated in the face of practical adversity. Various forms of pessimism and near pessimism give articulate expression to the anxiety of the time."250

This is the actual picture of the contemporary period. Certainly, the man today finds it difficult to forget his traumatic experiences and sufferings of the two world --- wars. If anything the man, the individual, in flesh and blood, has become more important than his thought about himself, rather, he has become the focal -- point of his entire thought process.

In this contemporary context, there is a system of thought, i.e. Existentialism, in which with other dissimilarities, a common point is the importance of existence, and of the individual, man and not the men of the masses.

Soren Aabye Kierkegaard, a Danish Philosopher, was born in 1813. At that time the thinking process was progressing towards more and more idealism and intellectualism. The final outcome of these tendencies was the absolute idealism or abstract intellectualism. Rationalism be the religion of man. Kierkegaard was born a christian, but found christianity all idealistic,

completely remote from human - life. He tried to study Hegelianism and gained a deep insight into the Philosophy of the Absolute. There also he found a complete negation of an individual personality. In his personal life, he experienced a complete dejection. These tensions and sufferings made him a kind of revolutionary. He attacked traditional christianity and revolted against utterly abstract universalism. At this time, he was condemned for his rebellion and was forsaken by his contemporaries. His ideas were never appreciated by his other fellow -- thinkers.

When at the beginning of the 20th century, the first world debacle was about to breakout, a kind of despair took possession of the human mind. The common man received no proper solution of his problems either from idealism or from intellectualism. The destructive weapons of science filled him with the dread and despair. At this stage, philosophy tried to re -- discover man as an individual and in doing so, it came to discover the philosophy of Kierkegaard, which was left to disappear out of history after his death, in 1855.

Kierkegaard was the important philosopher, who made a kind of re-discovery of the individual lost in the massive universality of sciences. The faith, feelings, emotions, and passions in a man were emphasized by Kierkegaard. He created new grounds for faith. His philosophy was the resurrection of faith and the individual.

The great merit of scientific thought was and is its freedom to fly skyhigh, to explore to analyse and to arrive at verifiable truth. It explored and analysed the truth of man also. But what it got as a result of analytic exploration is a formula about man, which is getting more and more remote and complicated. This is really the self -- stultifying outcome of modern science. So man today doubts if science can solve his personal and spiritual problems.

Here arises the problem of self --- estrangement. The man is becoming stronger to his own self. He knows more about the world than about himself. This is the problem of cognitive alienation which is invested by Hegel in the history of philosophy. He knows about himself as an object, something outside from him.

Self --- estrangement is the product of the age of technology. Hegel used the word self -- alienation in the sense, that an artistic creator of the Absolute Reason becomes alien to his own creations. In technological age, man has been reduced to a thought or a concept. A thought or a concept becomes alien from the thinker, So man, the thinker, has become stranger to the man, who lives and feels. Kierkegaard's philosophy has a relevance in the context as outlined above. Kierkegaard's subjectivity alone can salvage man and can be his relevant philosophy.

Existentialism, in general, and in Kierkegaard, in particular, is an articulation of a particular mood. This mood is the outcome of the age. The main contents of this mood are despair and dread, anxiety and a feeling of being at war with one's own innerself. In short, the mood is that though thinking may be good and thought may give us some knowledge, yet it can not, and has not been able to solve man's basic problem of living. The gravest spiritual problem of the technological man today is, as I have said above is his self - orientation or the loss of his individuality and uniqueness under massiveness of humanism. What can solve his problem and save him is his going back to the Philosophical position of Kierkegaard. As a matter of fact, Kierkegaard is more relevant to our age than to any other age or ages.

In reference to Kierkegaardian Philosophy, St. Augustine should be considered as an existential thinker. His autobiography -- confessions is an example of existential work where he asked the questions about his

whereabouts. His 'who am I?' Was not the rational or intellectual curiosity but it was related to a self -- questioning. Reason for Augustine was ' a hollow ring' as far as seeking an eternal happiness.

Kierkegaard uses 'Subjectivity' in theological sense as opposed to epistemological and metaphysical sense. This theological aspect of human life is reflected in Augustinian philosophy. St. Augustine emphasises the helplessness and the limitation of finite being. Man cannot have faith in reason to overcome these limitations, but he has to take a leap from reason to faith. Faith in God can only save him from overwhelming despair, dread and fear. God is the highest majesty, where inquietude and anguish of his life come to an end.

Augustine did not look upon man as an object. Man is composition of body and soul but he is endowed with the grace of freedom, the essential feature of subjectivity. His message is to appropriate the Truth which counts man's spirit and not the orthodox rituals of the church.

The modern age in philosophy begins with Descartes, a mathematician - philosopher. Descartes, for the first time, raised the question of knowledge. He, through his logical base, proved the existence of man. His 'cogito' Ergo, Sum' was his most important formula. He suggested that the mind can know only itself, its own ideas and thoughts.

Other rationalist thinkers introduced some new methods to solve the problem of knowledge. Whether they were the rationalists or the empiricists, their approach towards the problem of knowledge was objective in nature, and therefore, they could not give the proper solution for the riddle of thing and thought.

Kant raised the question of the relationship between the thing and the thought. Common man's view is that both of them exist separately; there is a kind of correspondence between the thing and the thought.

Kant's answer is : thought and things are separated and distinct. Thought can never know the thing -- in -- itself. Thought can only know the impressions of things. Since all men think alike according to innate forms of thoughts -- processes., the thought itself becomes objective. A thought is treated as an object.

Hegel said that this distinction of thought and thing a phenomenon and numenon is false. The truth is that as a matter of fact, there is no distinction between thought and thing. They are the same at bottom. Pure thought evolves itself in history. In the process of historical evolution thought itself evolve into thinghood. The world as we know it is the objectified thought. this objectified thought and the process of objectification is the process of Reason. So according to Hegel Reason is the reality.

At this stage Kierkegaard takes the following position : If rationality is reality and rationality is complete objectivity, then reason cannot lead us to the truth of myself as a subjective being. Reason makes me deal with myself as an object, which is contraposed to my subjectivity. This means reason leads me to cognitive alienation, a flight from myself and an estrangement from my being. Reason can yield to us what is my negation, that is, to my essence but not my existence. Only subjectivity can lead me to my being and my existence. And this can come from faith.

Kierkegaard's philosophy is a reaction to excessive rationalism and its condemnation of the irrational aspect of the nature. In rationalism there is no place for human feelings, passions and desires Kierkegaard establishes the need for irrationalism.

Kierkegaard believes in the total contra -- position of reason and faith. Christianity according to him, hob - nobs with both. Therefore, Kierkegaard rejects and condemns the christianity but he believes in the true christian spirit, which is the assertion of faith and total negation of reason.

"Blaise Pascal is a forerunner of existentialism because he begins with the human situation as received from within, instead of something objective".²⁵¹

His famous but unfinished writing "The Pensees" is very much like the "confessions" of St. Augustine. It contains writer's reflections on the human situation and human approach.

Pascal was the passionate student of science. But Pascal himself experienced that due to the mechanization of human existence man lost the meaning of existence. He became homeless. Pascal says, "the silence of these infinite spaces frightens me". The horror of solitary life compelled man to rethink of his own existence. Thus he became existentialistic like Kierkegaard.

There is a remarkable similarity in this thinking "Where am I?", "who am I" "who is it that burried me into the world and now leaves me there?" "Why was I not consulted?"²⁵² And "What a chinera then is man?" "What a novelty!. What a moniter what a chaos, what a contradiction, what a prodigy, judge of all things, imbecile worn of the earth; depository of truth, a sink of uncertainty and error, the pride and refuse of the universe."²⁵³

Pascal accepts the non -- rational aspects of human life. "The heart has its reason which reason does not know", is a beautiful expression of his concept.

He like Kierkegaard accepts the primacy of religion as compared to reason. He condemned cartesian philosophy for his 'Cogito Ergo Sum' and for

his 'concept of God', which only gives the concepts and thus leaves man helpless and alone.

With the advent of 20th century, the peace, hope and the state of equilibrium showed the signs of breaking up, and the prospects of war loomed large and it became clear that the individual would be sacrificed for the benefit of the group. Nationalism, or the growth of rationalism had reached its peak at the end of 19th century. It was at this juncture Kierkegaard with his stress on individuality and his philosophy of subjectivity was remembered by the thinkers. This is how Kierkegaard may be said to have influenced the French and the German existentialists of the 20th century.

The idealistic and conceptualistic philosophies of 19th century dominated the world of the philosophy for a longer period. The idealistic philosophers, were the philosophers of a world completely remote from suffering and pain, of a world which was considered by them as an abode of perfect happiness. This ideal world consoled the common mind and provided the psychological assurance of happy life. So was case of rationalism. Rationalistic philosophies based their concepts on scientific postulates. Outwordly, they seem to be perfectly logical and scientific in their outlook. There was no question of doubting against these perfect ways of thinking. Thus a man, Kierkegaard, who realized the technological alienation making man hallow inwardly, was ignored at his time. Kierkegaard warned the philosophers of his time against attaching excessive importance to scientific concepts in the field of philosophy. For him, the aesthetic, the ethical and the religious aspects of human life cannot be interpreted in terms of objectivity.

His existentialist successors, whether French or German, developed his concepts. Which were neglected during his life -- time. Kierkegaard in other words, laid a foundation of the philosophy of commitment.

Jaspers is a German, Protestant, Kantian existentialist and Marcel is a French, Christian thinker. Jaspers and Marcel both accept the question of self -- 'What am I?' but not with Kierkegaardian fervour. For Marcel 'man' is not a problem but mystery. It cannot be reduced to an objective problem but the existence of 'I' is to be revealed and illuminated. And here it differs from Kierkegaard's concept of human subjectivity.

Faith and the leap are the terms of Jaspers and Marcel. Like Kierkegaard, both the thinkers oppose the application of methods and attitudes of science to human problems the rationalistic approach and metaphysical systems limit man to a certain formula which, generally, existential thinkers never accept. But these thinkers adopt an optimistic attitude towards life as opposed to Kierkegaard.

The problem of man in Heidegger's philosophy is the problem of Being. The cause of despair and dread in human life is his disassociation with Being. So it is Being which denoted the fact of existence. Heidegger makes a clear difference between Being and beings. Disharmony in life is due to this confusion of beings and Being. Being is the pure subject and when we look upon it as an abstract, general and empty object, tensions arise. Thus Heidegger is less interested in man and his personal and ethical interests. Man for him is only an access to Being.

'Truth is subjectivity does not mean that the nature of the world is revealed in some personal and in communicable premonition rather than by objective inquiry, but that every thing anyone does, including his search for the objective truth, gets its value from the way in which it is willed or decided by him.

Subjectivity for Kierkegaard is something, the real nature of a man, through which he commits himself before God. This inner nature of man is free

to exercise choices. The concept of freedom is correlated with the concept of subjectivity. When a man is free to choose himself, the whole responsibility of his choice lies in him because responsibility proceeds from freedom. This awakening or self -- consciousness of an existing individual makes him aware of his separation from God. He realises his guilt of becoming an object in this huge world, and thus arises the problem of misproportion between the finite and the infinite. For this misproportion Kierkegaard uses the terms sin fear and trembling, dread, sickness. This sickness can be overcome by the repetition or by becoming committed to ethical and religious life. By the grace of God man frees himself from the sickness and attains his highest aim, the contemporaneity with Christ.

In 'Either/or' he categorises three stages, namely the aesthetic, the ethical and the religious. The aesthetic stage is that at which one seeks pleasure in worldly objects. 'Eat, drink and be merry' is the slogan of the aesthetic stage. Kierkegaard also standardises the aesthetic tastes. Music, literature, painting, the drama, architecture are also the means of satisfaction. But he says one thing clearly that the thing tastes good not by being good in the market of valuation but it tastes in so far as it allows man in having his own way. He gives an example of wine and water. Wine may cost, and not water. But wine does not quench thirst as water does.

In the classical, or the Aristotelian tradition, there existed a dichotomy of knowledge as subjective and objective. The subjective knowledge is meant to be one which depends on the subject's view point, his emotional and volitional make-up, his passing moods and attitudes. It considers the subject as a mental container of knowledge impressions, cut off from the surrounding world. Objective knowledge is independent of the personal whims and moods and is

therefore something enduring, universal, unchangeable and always valid. In objective knowledge the existence of the knower becomes negligible.

Kierkegaard invested the term 'Subjectivity', with a new meaning in the philosophical era. It is not basically an idealistic or neo-Platonic subjectivism. Subjectivity for him is just not the converse of objectivity. Subjectivity is the very essence of the spiritual life. It is freedom and moral responsibility. "Subjectivity, for Kierkegaard, does not mean the angularity that attaches to every man, the quirks of temperament to which we are all subject. It does not mean the capriciousness of wish and will, that intermittently inclines us to one or another folly". 254

Subjectivity refers rather to the process by which the individual appropriates what he thinks and so brings the truth into existence. The true nature of human being is subjectivity. The subject is an existent being as interacting with other persons and things.

According to Kierkegaard man is free to choose. His choice is not suppressed. Thus freedom of choice makes man responsible for his decisions. When he chooses, he knows the risks and feels the dread of responsibility. The essential characteristic of subjectivity is unfettered freedom of making decisions and choosing the good against the evil. If this unfettered freedom is once denied the spirit of man becomes completely objective, that is to say, an object, conditional and governed by the laws which are not of his own choosing.

If the self is not governed by its own nature and by its own laws it cannot live a genuinely moral life which is the authentic life. By the phrase, 'its own nature'. I do not mean to be anything objective, external or universal since each person is unique in one's own self and this uniqueness of a person is his subjectivity.

Kierkegaard does not accept the conditioning and governing by external laws, because this makes human -- behaviour mechanistic, and universalistic. The whole philosophy of Kierkegaard is against this mechanistic universalistic attitude. Any attempt at defining man in universal and objective terms would reduce him to an abstract notion, devoid of any flesh and blood, feelings and emotions. Such a defined notional human being is incapable of any responsibility, decision and commitment.

Also Kierkegaard would refuse to accept man as a part of the totality. A man is to him unique and complete in himself and not just a member of a society. As a part of the massive totality, again, he is reduced to nothing.

Kierkegaard was a religiously oriented thinker. So his interpretation of subjectivity has a religious overtone. The highest aim of man is to attain the complete inwardness. Inwardness is the relationship of the individual to himself before God.

The fame of introducing the notion of subjectivity is associated with the name of Kierkegaard yet from the very beginning of human reflection, whenever man turned inward and asked questions about himself, his source and nature of being, his 'wherefrom', 'wherefore', and whereto' the existential tendency emerged in philosophy.

Kierkegaard accepts the philosophy of socrates by saying "My task is a socratic task". He was steeped in Greek philosophy.

Socratic "know thyself" indicates his subjective acceptance in decisions. The example of his personal life supports the notion of subjectivity as it is propounded by Kierkegaard. The process of inwardness in order to enter into the depths of his own being is the message delivered by socrates. Socrates is of the view that one cannot know what one can do (from a moral point of view) unless one has some implicit knowledge of oneself.

Like Kierkegaard, Socrates also accepts the primacy of inner voice (daemon) in order to reach the truth. Socrates was against dealing with the metaphysical problems. He was rather interested in the problem of man and his existence.

The following passage supports the idea : "In the Socratic view each individual is his own center, and the entire world centers in him, because his self knowledge is a knowledge of God. It was thus Socrates understood himself, and thus he thought that everyone must understand himself in the light of this understanding, interpreting his relationship to each individual with equal humility and with equal pride. 255

Kierkegaard thinks that the individual can be free, creative and truly his own authentic self, when he accepts his pains and suffering and accepts his guilt through his ethical and religious commitment. By eating the fruit of wisdom, Adam separated himself from the being of his lord, and committed the original sin and suffered. By his complete surrender to him alone, he could regain his true self.

Thus Kierkegaard's philosophy of subjectivism asks and answers the most fundamental and vital questions of man's life. This is the only answer to the modern man whose individuality is being crushed under the wheels of machinery and the socio -- economic systems of his age.

Hegel's philosophical " Absolutism" is criticised by Kierkegaard because it fails to explain the paradoxes of human existence and the pre -- requisites of faith. The paradoxes are :

(a) Man is never 'is', because by nature man is 'not'. Man is 'possibility' and not 'certainty'. In certainty, there is no freedom, choosing and becoming. So the reflective thought system cannot provide the scope of freedom, choosing and becoming in its certain doctrines.

(b) Man is both eternal and temporal. He is known to be an intersection of eternity and temporality. His actions are in time. His decisions take place in the reference of fading nature of the time yet he has eternity in his action because he acts always. He is in a continuous process of becoming and not seized by a particular moment, so the paradoxes of human soul cannot be materialized by the abstract intellectualism.

According to Kierkegaard the truth of life is the movement from present to the future, which is unborn, unseen and unknown. Such a movement is truth creative. It is free but full of dread and pain. Tension is the mark of this creative movement. Hence men's reality lies in tension and the creative movement. "In this tension and in pathos he has his life. Such an existence is pure and subjective.

System cannot explain the nature of freedom that is essential to selfhood. The self-hood is realized through actions and performances which cannot be programmed by philosophical thought. The solution of man's problem can come only from subjective thinking, a thinking born in passion rather than in disinterested curiosity, not from contemplation of life in general but from the conduct of life in particular.

"A human -- being is a freedom caught in the intersection of time and eternity. ²⁵⁶ Such is the fate of human existence that he must suffer, from the contradictions because that is the price of existence which is passion and possibility. It is the predicament of becoming one's self.

If we substitute society for reason and intellect, the result will be the same deprivation of freedom. Society can give security to man but robs him of his true subjectivity. Since man is individual, he cannot take his decisions on the basis of the collective code of society, just as he cannot take his decisions on the basis of Universal Reason, on the ethical principle or on the basis of a

law of nature. Freedom is the franchise of human spirit. Therefore, man has to remain essentially alone, always isolated from the multitude of human beings with the problems, pain and prospects of his own person.

"Sprung from nature but cut loose from her umbilical, capable of knowledge but deprived of a certainty equal to the demands of action, the existing individual also stands in the midst of his fellow men, essentially alone".²⁵⁷

Kierkegaard is of the view that truth which needs to be proved from any source outside of itself is not truth. It cannot give us certainty of knowledge. Therefore, according to Kierkegaard subjectivity alone can be the source of certainty of knowledge and of truth. Any objective source would make truth depend on something alien to an independent truth itself. Nothing else can give us the truth. Subjectivity is the key -- stone of Kierkegaard's thinking.

But what is subjectivity ? Kierkegaard inverts the cartesian formula 'sum, Ergo, Cogito'. It means that the proof that I am an existing being is intuitively and subjectively known to me. For this I need not depend on any reflection, ratiocination, concatenation of objective proof. I am subjectively certain; I can never be certain in any subjectivity the only authentic proof of subjectivity is intuition. Therefore Kierkegaard thinks that "I am" is truth. It is the authenticity of myself. It is my subjectivity as an existing being and 'cogito', that I think and reflect follows from 'Sum' rather than 'sum' following from 'Cogito'.

Finally authentic existence for Kierkegaard "is always personal" "this person is concerned and passionately committed, though he does not confuse his own faith with world structure. He knows himself as a limited and contingent existence." ²⁵⁸

Kierkegaard does not negate the objective importance of the world. Besides the objective world, there is something which eludes man in the objective world and that is the real essence or Spirit of man, i.e. subjectivity. Subjectivity is the fundamental concept in Kierkegaard's philosophy, which amounts to avoiding excessive attachment to reason. Objectivity is not, altogether, fruitless or absurd. But there is an error where everything is sought to be explained in objective terms. The inner nature of man should never be talked about in objective language because, this is 'he' who lives and not the concept of 'He'. Not the universality but uniqueness in the truth of man. He is one of the society but he preserves his identity, and individuality, And it is never objective.

Jacques Maritain is another most widely known and most influential of contemporary catholic philosopher. Like his fellow existential thinkers Maritain is also deeply dissatisfied with the prevailing intellectual atmosphere, rationalism, positivism and scientism. Existentialism, itself, is a kind of revolution against these tendencies that prevailed after world war. Existentialism in a general form, rejects objectivisation and universalisation. Maritain is no exception to it. Maritain is highly influenced by Thomist philosophy, but it does not mean that there is nothing his own but Thomism. Maritain is diverted towards the more practical problems with which he is preoccupied at the very initial stage. He was not reluctant to challenge the "pseudo metaphysics of scientism". Thus, he is also, nearer to Kierkegaard in this respect.

As an existential theologian Maritain deals with the nature of God as well as the problem of man and existence. He is against universalisation and objectivisation of man like other existentialists.

"Subjectivity as subjectivity is inconceptualisable; is an unknowable abyss. It is unknowable by the mode of notion, concept or representation or by any mode of any science, whatsoever introspection, psychology or philosophy" ²⁵⁹ Subjectivity as such is beyond definitions; it is not possible to know it by the means of notions. It can be known only by "concomitant" or spontaneous consciousness. "Subjectivity is not known. It is felt as a propitious and enveloping night."²⁶⁰ Like Indian Philosophy, the consciousness of one's inner self lies even in having consciousness of 'I'.

Maritain classifies, three specific and distinct forms of having knowledge of subjectivity, which are though, fragmentary and imperfect, are only possible means of knowing one's inner self. One, the practical knowledge, justifies the ethical and moral action of the man, and by this justification proves the inner conscience and moral prudence. The scale of good and evil and a natural diversion towards the higher good proves that man is not only what he seems to be but also has spiritual self in it, which constantly forces him to be good.

Second, the poetical knowledge lies in the creativity and aesthetical work of the being. The essential nature of man makes him able to something new, original and artistic. There is a natural bent towards beauty in human beings and this is beyond any objectification. Beauty is one of the highest values of human life and no one can negate the importance of this natural tendency.

Third and the last means of knowledge is mystical which indicates towards the things, Divine. There is a clear indication of the divinity in man. Man does not only think and feel, and is not confined to being ethical and aesthetical alone but he has also a thirst, for the Divine. Without this spiritual element, he cannot be a 'a true man'. "This is the essential nature of being.

But it is not proper to consider these methods as the only means of knowing, because these methods are the notions of human mind and not free

from objectivity. The innerself of man is essentially subjectivity and beyond any definition or law.

It is evident that man is a part of society. He is a member of group and a very small unit of this universe, yet he maintains his individuality. He is not only one of the crowd but has his own importance which cannot be diminished by the crowd. "I know that I am one of the herd, no better than the rest, worth no more than the rest. I shall have been a tiny crest of foam, one moment gone in the twinkling of an eye, on the ocean of nature and humanity perspectives. But whatever happens to the others is a mere incident in the picture but what happens to me, what I myself have to, is of absolute importance. 261 Thus he is nearer to Pascal and Kierkegaard in depicting the image of individual of subject.

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231. See Descartes, *Philosophical Letters*, Anthony Kenny (ed.) (Oxford Clarendon Press, 1970), 243 - 245, Descartes clearest explanation of the matter comes in a letter to the English Platonist, Henry More.
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PART II

The word anthropology was first used in the philosophical faculties of German universities at the end of the 16th Century to refer to the systematic study of man as a physical and moral being. Philosophical anthropology is thus, literally, the systematic study of man conducted within philosophy or by the reflective methods characteristic of philosophy, it might in particular be thought of as being concerned with questions of the status of man in the universe, of the purpose or meaning of human life, and, indeed, with the issues of whether there is any such meaning and of whether man can be made an object of systematic study.

The term "philosophical anthropology" was first introduced by A. G. Baumgarten in his *Metaphysics* and was sanctified by Kant. It meant than quite a different thing, namely empirical sociology or empirical social anthropology or, more accurately, at least in Kant's work, empirical sciences of man. What Kant has or would have labelled philosophical anthropology in our sense is, "The metaphysical foundations of morals", or "the metaphysical foundations of anthropology".¹ H. W. Wien, has dealt with the origins of the modern term "philosophical anthropology" similar to the views of Max Scheler and Helmuth Plessner, and its meaning as the principle of a synthesis of all sciences dealing with man.²

Modern philosophical anthropology originated in the 1920s. During the 1940s it became the representative branch of German philosophy. It arose with, and has absorbed, *Lebensphilosophie*, existentialism, and phenomenology, although it is not identical with them.

Herder was the first German author to correlate biology and the philosophy of man. From him stems the conception of man as a deficient being

who must compensate for his lack of natural tools and weapons by the creative use of weapons and technology. Hegel's theory of alienation and its Marxist version has become a vital element in philosophical anthropology's comprehension and critique of society.

Philosophical Anthropology

What does a philosophical anthropology include ? what is anthropology in general and how does it become philosophical ? "Anthropology" denotes and science of man. It comprises all the information that can be obtained about the nature of man as a being composed of a body, a soul, and a mind. The domain of anthropology includes not only those given verifiable properties which distinguish the human species from plants and animals but also man's talents and abilities and the differences of character, race, and sex. And inasmuch as man not only appears as a natural being but also as a being that acts and creates, anthropology must also seek to know what man as an active being can and should "make of himself". His powers and obligations depend finally on certain basic attitudes which man as such is always capable of adopting. These attitudes are called Weltanschauungen and the "psychology" of these includes the whole of the science of man.

Since anthropology must consider man in his somatic, biological and psychological aspects the results of such disciplines as characterology, psychoanalysis, ethnology, pedagogic psychology, the morphology of culture, and the typology of Weltanschauungen must converge in it. Hence, the content of such a science is not only vast but also fundamentally heterogeneous of basic differences in the manner of formulating questions, the necessity of justifying the results acquired, the mode of presentation of the facts, the form of communication, and finally the essential presuppositions (of each of the

component disciplines). In so far as all of these differences and, in certain respects, the totality of the essent as well can be related to man and thus classified under anthropology, anthropology becomes so comprehensive that the idea of such a science loses all precision.

Anthropology today, there is not only the name of a discipline; the term denotes a fundamental tendency characteristic of the present position of man with regard to himself and to the totality of the essent. According to this tendency a thing is known and understood only when it receives an anthropological explanation. Today, anthropology not only seeks the truth concerning man but also claims to have the power of deciding the meaning of truth as such.

No other epoch has accumulated so great and so varied a store of knowledge concerning man as the present one. No other epoch has succeeded in presenting its knowledge of man so forcibly and so captivately as ours, and no other has succeeded in making this knowledge so quickly and so easily accessible. But also, no epoch is less sure of its knowledge of what man is than the present one. In no other epoch has man appeared so mysterious as in ours. ³

From the point of view of both the inner structure and the outer expression there is nothing more enigmatic in the world than man. No theory about the nature of man has ever claimed to be complete. There is something basically paradoxical regarding man's knowledge of himself. He finds himself to be there as a knowing consciousness and at the same time discovers, while he is in the knowledge situation, that there is an expanse of the unknown spread around what is known. Man's knowledge of himself, and of course of the world, is shrouded in an ocean of ignorance. Our pursuit of self-knowledge is a sort of dog-running-to-catch-its-own-tail game. Our being escapes from

our own act of knowing; we know thing and yet do not know enough what we know of it; somewhere our knowledge retains an eternal lack.⁴

Formely, man was threatened not primarily by man, but by nature. Today, through science, nearly all natural phenomena have been or can be brought under man's control. Man is threatened neither by nature nor by the god who made nature, but by his own use of nature. Man's enemy is man, man made structures, or the god who made man. We are the first generation we are told in which man has become fully and thoroughly problematical to himself; in which he no longer knows what he, essentially, is but also at the same time knows that he does not know. In Kafka's simple but shattering phrase I lack nothing except myself. Samuel Beckett's Molloy listens, "and the voice is of a world endlessly collapsing". Such is our mood and milieu but, are we not responsible for what has happened ? The loss of reality is due to a series of abdications and wrong choices. The image that we see focussed on the screen of history is our own projection. The wounds are selfinflicted.⁵ "Will no one tell me what I am?", cried the anguished old king Lear. On the modern waste land there is no lack of voices to tell us what man is, rather what man is not. The insecure human being, is an extreme situation, that gives our epoch its physiognomy. Why we are here, is an old, impenetrable question, hard to avoid and beyond our means to answer. As a psychiatrist reported: "why is the world :" a question to which a mental patient could find no answer but from which he could also find no relief.

Man's ambivalence towards TRUTH and KNOWLEDGE remains a continuing dilemma. From the dawn of human civilization Man has yearned for knowledge and yet resisted it. The path-finders have been ridiculed and persecuted, sometimes to death, and then accepted and admired sometimes even worshiped. The discoveries of nature have encountered stubborn

emotional blinders. However inner reservations and irrational hesitations to the understanding of man have been much stronger, despite the long-cherished ideal of "know Thyself". The task has been made immensely more difficult because of the complexity of the subject-matter. Evidently the science of man is more elusive than the science of Nature. We know a little about Nature and also about human body, though in these areas also we remain ignorant about many things. We cannot predict earth quakes, nor do we understand fully psychosomatic illnesses. But our knowledge of human nature and personality is less satisfactory being partial, atomistic and fragmentary. And our knowledge about society is even more superficial.

Man remains an unsolved riddle and will continue to be so far more years. It is too early to attempt an integrated concept of man. We do not have all the pieces to complete the jigsaw puzzle of human personality. We need more information and our existing information need more refinement and greater accuracy. The understanding of man has to be multidisciplinary drawing upon biology, genetics, biochemistry, physics, physiology, sociology, anthropology, psychiatry and psychology. The Science of man has to await developments in all these fields. It has to wait for its Newton and Einstein, and though it may be a long waiting, it certainly will not be boring at all ; instead, it will be filled with the thrills and excitements of the visions of new horizons.

"I regard anthropology as the principle of all research"⁶ says Claude Levi Strauss, and he makes it clear that he means all research, not only all social research: he quotes (note, p.248) the logician E. W. Beth (The Foundations of mathematics, Amsterdam, 1949, p. 151), to say " Logic and logistics are empirical sciences belonging to ethnography rather than psychology". This is an extreme form of anthropologism. ?

The whole of modern culture and technology is a stimulating phenomenological introduction to the philosophical knowledge of the interiority of man. The wonder that we feel before the marvels of technology is an invitation to admire the grandeur of the author of technology.

Prior to the birth of science and technology, man had already given proof of his greatness by his marvellous creations of art, poetry, and music. Phenomenology of the human subject is constituted by the works of his own ingenuity and by his ever increasing dominion over the world. Man, as a cosmic reality, occupies the summit of the pyramid of existents and contains all their values. Man knows no limits in scientific and technological progress. This limitless and ever progressive development calls for a philosophical exploration of the human subject to find the most radical justification which undoubtedly lies in the nature of thought and its relationship to existence.

In his study of man,⁷ Michael Polanyi discusses at length the thesis that since machines operate to specifications, technology is not reducible to physical science. To say that man is a machine, he says, is true, since we may patent inventions which operate to the same specifications to which animal organs operate. Yet, he concludes, this is not the reduction of physiology to physical science. But, in addition, man is higher than mere machines or other animals. "Animals may be lovable, but man alone can command respect: (p. 59) he possesses language, art, science. These are creatures of "cultural standards" such as the respect for the truth which enables one to stand up against the society which has taught him these standards (p. 61-2). Polanyi follows this idea to the conclusion that men have minds above and beyond their mental capacities (p. 65).

As Alexander Pope said some centuries ago, "the proper study of mankind is man".⁸ If that was true when Pope wrote *An Essay on man*, it is

even more true today. It begins to dawn upon us that all the questions which arise from our being in the world converge to the one overwhelming question: what is man?

Questions of the form "What is it like to be such and such ?" are not always significant questions. The following, for example, are not significant questions: "What is it like to be a planet?", "What is it like to be a mountain?", "What is it like to be a prime number?" Why are these questions non significant? These questions lack significance because, for a question : "What is it like to be a planet?", "What is it like to be a mountain?", "What is it like to be a prime number?" Why are these questions non-significant? These questions lack significance because, for a question of the form "What is it like to be such-and such?" to have significance, it is essential that being such-and-such should involve having experiences on the part of whatever it is that is such-and-such; and because being-a-planet, being-a-mountain, being-a-prime number, do not require that certain configurations of matter or certain numbers should have, or be capable of having, experiences of any kind for a question of the form "what is it like to be such-and-such"?⁹ to have significance, it is not sufficient that being-such-and-such should involve being - an - experient.

Consider some examples of questions of the above form which are significant questions. "What is it like to be pilot?", "what is it like to be a father?", "what is it like to be a prime minister? Why are these questions significant questions? clearly they fulfil the condition that being-such-and-such should involve crucial condition, such as the following one: For a question of the form "what is it like to be such-and-such?" to be a significant question, it is essential that whatever is such-and-such should not only, or merely, be such - and - such. If a person is a pilot, he is not only, or merely a pilot; if a father, then not only or merely, a father ; if a prime minister, then not only, or merely,

a prime minister. What the fulfilment of this condition insures can be brought out in the following way. If a person is a pilot, but not only, or merely, a pilot, then he can compare and contrast his being - a - pilot with other actual or possible modes of his existence; eg. being-a-father, being widely-travelled. etc ; and he may find, and we may agree with, that there were some experiences of his which illuminatingly tied up with his being - a - pilot. In this way we could expect from him, or on his behalf, an illuminating answer to the question "what is it like to be pilot?". The questions 'what is it like to be a father?', "what is it like to be a prime Minister?", also fulfil this condition, and achieve significance.

Jacob Bronowski in, "The Identity of man",¹⁰ claims in the final section, "Man is a machine by birth but a self by experience", Does the machine have experience and does experience render it a self? In section 6 of Part I Bronowski says 'Even a machine can become unique a machine acquires an individuality. Can then a machine be active? The question hinges on the sense of action - that of a free agent - and so on the sense of freedom not subject to law in all respects. This links with individuality and experience by the thesis, Section 2 of part I, man's procedures for getting experience cannot all be formalized". To the extent that this is true of machines as well, adds. Bronowski, it is so because "a machine is not a natural object, it is a human artifact". This is also the chief thesis of Norbert Wiener's classic. God and Golem Inc, A coment on certain points where cybernetics Impinges on Religion.¹¹

Popper views man as a problem-solver and thus as a non-machine. Admittedly machines too can solve problems, but only to complete programming. Hence man indeed any animal - is an unprogrammed problem - solver. To this the standard reply is, we can have random programming. This,

replies, popper, is like random writing of books. It can be done, but then who will decide which few of the very many random books make sense and which few of those are interesting ? The same idea is much elaborated by the great writer Jorge Luis Borges in diverse essays and stories. (Interest, of course, is purposeful)

The two yes-or-no-questions, is man divine in part, and is man good, and both central to philosophical anthropology of all ages throughout western-and even oriental thought. Strangely enough, the predominant answer is, man is divine in part and he is (due to his non divine or animal part) downright evil. The radicalist anti-traditional, anti-religious, enlightened, or rationalist, view is that man is wholly animal, yet (naturally) good. The argument for man's goodness thus from the assumption that matter is not good it does not follow that it is evil, it can be indifferent. Indeed, the material world, i.e. the world as a whole, is actually morally indifferent. All there is, then, is just facts, devoid of all motive power. And reason, whose task is to comprehend or copy reality, is thus likewise quite indifferent. What, then, activates us? Nothing but our animal drives drive us. The most famous saying on all this is David Hume's (Treatise, Book II, Part III, Section III). "Reason is, and ought only to be, the slave of the passions". Clearly, Hume's saying expresses the doctrine of the natural goodness of man.

Man is a multi-dimensional phenomenon. And as a phenomenon and true to the nature of a phenomenon, he is partly disclosed and mainly in the nature of potentiality. Since his disclosed being in man is physical-behavioural, it has to be reconstructed from cosmogenesis and physical anthropology. man is said to be a neogenetic phenomenon, meaning thereby the gradual evolution of mind or mental property, and having a sub-mental legacy behind him.¹² The very idea of studying man in a cosmogenetic context, rather than in a cosmological

one is prompted by an obvious dynamic consideration. The human phenomenon can certainly be studied in a static cosmological or physical framework. But by following the hominization or evolutionary process perhaps we could have a clearer image of what man is and what possibly he can be.

The relevance of physiology and psychology to the study of physical man is indisputable. But while these two disciplines are mainly concerned with particular men and examine their individual mental acts and behaviours, anthropology focuses attention on men in groups, on races and peoples and their happenings and doings. There is something in the very nature of man, or one might say, in man's own identity, in the recapture the changing identity of the past, and present, his own future image about himself. While the cosmogenetic evolution is marked by diminishing simplicity of elements and increasing complexity of their permutations and combinations, curiously enough, the human evolution is characterised more by the process of convergence and less by that of divergence. This is perhaps the main reason for man's uniqueness in the scheme of natural phenomena. He is an abnormal phenomena in the normalcy of nature. 13

It may be true, after all, that man is a rational animal, a mimetic animal, a symbolic animal, a tool-making animal, an information-processing animal, characterized by an eccentric positionality, from which he will not escape as long as he lives. The answers are there - and the quest goes on. For, though being a rational animal, man is at the same time the animal which, driven by selfishness, malice and fear, destroys its fellowbeings and, eventually, destroys itself (and there are for man, many ways of destroying himself). But even that is not the whole story, for man is, as far as we can see, the only being that in a world ravaged by anguish, hatred and terror and what not, desperately dreams the reckless dream of peace.

What mainly differentiates man from the rest of the animal world is his ability to signify and symbolize.¹⁴ All human achievements, propositions and speech acts to potteries and material relics, have an obvious common generic character. One might say, this is their symbolic character. Man's inalienable ability to comprehend objects, including sounds, stands in his way to blind imitation or faithful reproduction. His comprehension transforms imitation into production. It is only by introducing machine and relying on it that man can provisionally put stop to his generative-productive capacity. Whatever man does is marked by an element of volition. Even his faithful reproduction or representation of his own experience is somewhat unfair to the fact of his own experience. this unfairness is not an act of design or a part of a plan. In spite of his organic ability and alertness, the human response to environmental stimulus is not exactly quantifiable. It is mainly for this reason that the radical theory of behaviourism miserably fails in the paradigm of symbolic activities, in the field of linguistic behaviour.¹⁵

Whether we like it or not, we cannot avoid reference to 'internal states' like wills, impulses, feelings, purposes and so on. A rock's motion and a man's emotion, for example, are not objects of the same category. Even if we follow the rigorous scientific method of physics in physiology and psychology, we cannot totally dispense with the notions of internal states. There is always an element of psychological alchemy accounting for the lack of one-to-one correspondence between the input and output of the human communication and information. The tests devised to confirm or contradict a particular hypothesis regarding the input output relationship are themselves governed by a certain subjective considerations. Computerization of information theory is not an answer to this irremediable subjective element in the matters of theory construction and theory - testing.¹⁶

Language may be studied both from the descriptive or synchronic and the historical or diachronic points of view. It would be wrong to suggest that a historical structure is a succession of descriptive structures superimposed on one another and there is no distinction between the two. The descriptive approach is more suitable for the purpose of organizing and explaining a finite corpus while the historical approach can take better care of irremediable fragmentary volume of data and the changing features of the same or similar data under different circumstances or situations. The descriptive or taxonomic study of linguistics fails to account for the transformative features of language.¹⁷ That a language is indeed a form of life and that like all other forms of life it also undergoes silent but steady changes cannot be satisfactorily explained in terms of radical behaviorism or an archaic view of stimulus-response.

No sense nor instrument, no matter how powerful and accurate, is capable of grasping the difference between existence and the existent, between running and the runner, between studying and the student. This appears to have no importance and yet it is of fundamental importance. It is the task of philosophical anthropology to attain the deepest understanding possible of man in action.

Like all other existents, man presents himself as a total subsistent with a double basic structure, he is a body endowed with vegetative life like plants and with sensitive life like animal; but on the other hand, he is endowed with intellectual life.

Like all the existents of cosmos, man presents himself as a dual structure: he is matter and yet, at the same time, more than matter. As a rose is more than matter, man is something more than his body. The things of the world are materialised - ideas i.e. matter shaped in such and such a grade of

existential perfection. Now, the person is a stupendous idea, a living word which shapes the body by endowing it with characteristics that have no counterparts in other forms of life. What then is the intimate structure of this being that is so singular and unique? There has been strenuous anthropological effort to explain the mystery called man, but without total success. All the sciences including ethnology, history, sociology, constitute an interesting introduction to philosophical anthropology but they are no substitute. Only philosophy is capable of going to the very root of anthropology, without the philosophical apprehension of existence, anthropology rests on sand.

Man is not only a multi-dimensional being, he is also an ambiguous being. His multi-dimensionality and ambiguity are intimately interrelated. His consciousness is transparent but not his body. Even of his consciousness it has been said that, though in itself it is diaphanous, it is not represented so to us. The presentation of consciousness to itself in a form or idea of consciousness is a matter of a very old controversy. To counter the thesis of body-as-form-of-consciousness, another thesis, consciousness-is-function-of-body, has also been offered long ago and its different formulations are popular in the pre-naturalistic quarters, both marxist and Positivist.¹⁸

The quest for the hidden logical structure of natural languages turns out to be elusive for several reasons. First, it tends to deny the ontological commitment of natural languages. Secondly, the attempt to deontologize or dilute the referential character of logical language proves abortive.¹⁹ Finally, one is struck by the gradual discovery of a system of rules enabling one to penetrate the phonetic disguise of other man's thought. Successful actions and communications prompt us to believe that in terms of a language man can not only encode but can also decode the intentions of his "ghostly" thoughts and

"mysterious" encounters with the hidden reality. By virtue of his insight and symbolic ability man can penetrate the orthographic clothing of reality. 20

Men want not only a peaceful world but also a beautiful world. We want that our life, both individual and collective, should not only be perfect but also pleasant. We want peace and happiness. The haunting spectre of poverty and misery could not destroy our hope for better days, light and delight.

Hoping is inherent in the human nature. Man knows that he is mortal. He lives his life under the shadow of death; yet he talks of immortality, develops elaborate systems and detailed arguments in support of his understandable belief in the immortality of soul. Not only that man cannot meet his own end, he even hates the idea of death. He dislikes it. It makes him deeply sad. The shadow of death brightens up and deepens his consciousness and makes it more creative. It reveals one of the most noble and yet "unrealistic" dimensions of the human being.

Human existence is unique, unique in the sense that it is more potential than what is disclosed of it behaviorally and otherwise. The human existence is multi-dimensional, a bottomless pit or to change the metaphor, an endless height. The limits of the metaphor have to be clearly borne in mind. We have also pointed out that man is finite, fallible and mortal. Here lies the ambiguity of the human identity. While his consciousness and action are functionally subject to many conditions, in principle his potentiality is infinite. And therefore we find him perpetually a self-exceeding being.

We must recognise that concreteness is not the same as materiality. The foundations of philosophical anthropology begins with the rediscovery of integral human experience in all its existential dimensions.

Man is the only existent that is capable of experience by means of the intellect. In man the experience of infrahuman existents is gathered up,

intensified and amplified. Human experience assumes the dimensions of the intellect which is the faculty of the act of being.

Existence is the radical perfection that constitutes existents in their singularity as well as in their totality. To experience this perfection. The intellectual experience. In this sense, it is transcendental, i.e. total and universal.

Man is a being who is capable of experiencing the totality of things because he is capable of experiencing them at their root where there is both commonness and "properness". To limit man to the level of pure sensible experience and to preclude him from the most intimate and penetrative mode of grasping things (nothing is more intimate to things than existence), is to impoverish his vital space. It is to shut him up in a prison where the life of the spirit is suffocated. To deprive man of this radical experience is to cast him into a radical alienation, sooner or later, his spirit will revolt, it will contest and protest against a culture that has subordinated him to things, making him their slave which is worse than alienation.

All phenomenological philosophies alienate man because they deprive him of that which is proper to him - the intellectual grasp of the existence of things. To restore man to the fullness and plenitude of his experience is to restore him to himself and to liberate him from a fundamental alienation.

Scientific technological conquests are not sufficient for human developments and self-fulfilment; even the overthrow of social injustice is insufficient. Prior to giving back to man what is his own, it is necessary to restore him to himself, to give him the possibility of conducting himself with his intellect in the world in which he lives.

Man's fallibility freedom and mortality rationally suggest what sort of a just society he should try to realize. Because of his mortality he would

naturally like to achieve the aims and objectives which he himself believes in and shares with his fellow human beings. Time, especially his own life-time, is very important to him. This does not necessarily lead to a myopic and hedonic ideology: for his self-exceeding character is no less influential than the time which heavily weighs on his being.

In the last resort the question of philosophical anthropology is not : what is man? a question to which, theoretically, an answer might be found, and then we finally have the definition we have for such a long time been looking for in vain. In the last resort the question is: who am I? The human sciences cannot tell me who I am, even though they can say many things about me-many more than I care to know philosophy cannot tell me who I am, even though the great pictures of man can give me an inkling of what it is to a human being. I have to decide all by myself who I am and by my decision I say at the same time who I desire to be. The answer is not a scientific one, it is admittedly, utterly unscientific out of tune with all the answers which the university so eagerly teaches-but then, man is certainly not a scientific animal,; as soon as he becomes a scientific animal, he ceases to be man. It is not even a philosophical answer. The answer is a commitment and I alone can commit myself.

The sciences-natural, biological, social-have made available to us a vast storehouse of information about human being and their modes of existence, about the forms and structure and processes of development of their social organization, and so on. Nevertheless all this information, perhaps it should even be called knowledge, pales into insignificance when it is contrasted with the qualitatively utterly distinct and unique and special understanding each one of us has of what it is like to be a human being, we not only are human beings, we are self-conscious creatures, we have an immediate and inward

acquaintance with what it is like to be a human being. And this acquaintance, it should be called knowledge, is not, unlike scientific knowledge about human beings, of an inherently fragmentary kind. Our grasp of what it is like to be a human being is of its nature holistic. One could say that selfconsciousness fills the space of our beings, although it is constantly developing. A man's inward understanding of what it is like to be a human being may not, unlike scientific knowledge about human beings, enable him to predict and control the course of human affairs, including the course of his own life, in any remarkable way. Nevertheless it is only the former, and not the latter, kind of the knowledge that constitutes, authentic understanding of a human being.

There can be, and indeed are, two distinct approaches to the understanding of human reality : One outside-in and the other inside-out. Although ultimately the answer to the question what is man? Will have to comprehend explanations of all the factors that go to constitute the entire human reality, the outside-in approach is at the basis of all empirical sciences and rational analyses and the inside-out approach is crystallized in ontologies.

The empirical studies of human phenomena begin with the consideration of man as an object, an incarnate and observable being, i.e., one that can be dissected, experimented on, manipulated with instruments, measured, x-rayed. The empirical view of man, therefore, tries to avoid every reference to his inside, his feeling self. It is the basic requirement of this view to objectify man, to investigate him by divorcing him from his inwardness, to attempt into to state the unstatable existential meaning of "being human". For this view man must be explained outside-in, i.e., he must be regarded as a specimen of the behavioural set and brought under scientific laws. man, as a biological, physiological, psychological, chemical and social entity, according to the

outside-in approach, is a fully analysable system. Whatever we wish to know about him, therefore, is possible to be articulated by means of empirical laws.

There is no doubt that the scientists outside-in access to man has remarkably advanced our knowledge of various characteristics of the human species. When scientists analyse a human being, for instance, they reduce him to a definite behaviour pattern. The behaviour pattern thus established and stated in scientific language provides us with an account of the actual and possible human effects to different stimuli.

The outside-in explanations for the phenomenon of man, so far as their logical character is concerned, are invariably flawless because they make it a point not to construct unwarranted or transempirical hypothesis. They try to strictly adhere to the principle of stating only what is observed or observable, of establishing the truth of every proposition strictly empirically. So in many of the escientific philosophies today, where solutions to problems seek to be outside-in, every statement referring to man's inside is translated into the statement of behaviour. Statements about mental acts, about consciousness or ego, existential experiences, statements of private meanings, are all reached through the behavioural and physical formulations. In the process, man's subjectivity-his "inner space". One of the eternal mysteries into which our inward seeking sensibility continually runs, is lost.

The design of the inside-out study of human consciousness is to bring out the ontological structure of what we are. In fact this study is more than scientific for it proceeds from the "roots" of consciousness's very act of experiencing. It tries to grasp those roots and find out that expressions they take in our overt behaviour. Unlike the domain of scientific philosophy, for the ontological understanding of man the testability of statements or syntactically "clear" verbalisations are not the exclusive criterion of human experience. The

inside of man is to be seen first and articulated latter, to be felt before it is ratiocinated. It is to be mapped out by the inward - seeing sensibility²¹ i.e., a sort of transcended vision - whether the findings of such sensibility satisfy or not the requirements of logic and language and reason.

The thesis that human consciousness is intentional - originally put forward by Edmund Husserl and now unhesitatingly accepted by phenomenologists and existentialists suggests perhaps the most primordial quality of our existence. Consciousness is always the "consciousness of". The awareness I have of the physical world and of myself as an embodied mind cannot be separated from my being. To-be-conscious-as-man is to be worldly, i.e., to have a psychic structure directed towards objects, to contain and know that the world is there. Thus "being intentional" is being directed toward the world" both the expressions point out what can be termed the arrow - head character of man's entire psycho-physical existence.

However, our inside has demensions that cannot be exhaustively fathomed. We reach them by an act of transcendence. In its inward journeys so to say consciousness can see itself running into a volley of meanings, nuances, perspectives, each of which appears like a creation, an occurrence from no where. Actually the unfolding of the archaeology of these meanings is one of the most interesting although most difficult - tasks in the ontological studies of consciousness. Creativity is the very core of our inner life; it is the very spirit of man.²²

Self-transcendence is the essence of human consciousness. In every experience or act of his, man surpasses himself-as-given, figures as something more than his cognitive self. Human consciousness does not contain itself like an object. Being a ceaseless flux, its inward movement is without any boundaries. This is why its precise characterisation is not possible. It

constantly creates its views toward the given, generates and re-constructs meanings and throws them on to the given. There is thus no preconceived rational scheme which our inside adheres to. It is a person, an urge, a pure spontaneity, freedom.

So far as the ultimate reach of the transcendental process in man is indeterminate, the whole consciousness he has of the world is seen by him as if it had no origin. Every experience bears an internal mobility, a vagueness of contents, a hollowness at its very bottom. If we try to account for its origin or to determine its necessary and conclusive ground we will find ourselves merely fumbling in a domain of sheer emptiness.

This emptiness pervades the depth of our inside. One intuits it as a vast limitless, vacuous expanse from which intensions emerge totally spontaneously. There are no laws-and perhaps there could not be any-for the emergence of these intensions. Like Plato's Ideas, they appear to descend on us from a totally unfamiliar "otherworld". We know them only after they settle down in definite linguistic and logical moulds, after they are apprehended within specific modes of thinking.

Man's conception of the world is largely the result of these transcendently originated intensions or meaning-residue. There seems to be a strange, "dark" territory behind our consciousness a pre-conscious, pre-reflective territory - from which our weltanschauung emanates. Everything that our existence - in - the - world means to us the feeling of being-present-in-the-world and of being-posited-amidst-objects-and-persons, our time-and space-consciousness, our mode of thinking and using a language, etc. - arises from this territory. In this connection one is reminded of Martin Heidegger's words. In his brief *über den "Humanismus"* (1947; Brief letter on Humanism), Heidegger wrote :

Are we really on the right track toward the essence of man as long as we set him off as one living creature among others in contrast to plants, beasts and God ? when we do this we abandon man to the essential realm of animalitas but attribute a specific difference to him : In principle we are still thinking of homo animalitas even when anima (soul) is posited as animus sive mens, and this in turn is later posited as subject, person, or spirit (geist). Such positing is in the manner of metaphysics.²³

Naturalistic definitions of man fail, because like all traditional metaphysical definitions they naively assume that we know what we mean when we ascribe being to it.

Unless view of the inside of man is complete we cannot claim to know human life and human behavior fully. The elementary pre-conscious sphere which borders on a void or nothing impinges on our notion of the empirical reality and becomes the subjectivity - stuff that we basically are. It is the sphere of freedom, creativity and Being of which we are ordinarily unaware, or only intermittently aware.

Consciousness, as it is directed toward something or other, figures as a kind of gleam discovering whatever it falls upon. It is a capacity to radiate meanings, to present to itself this or that, and, in absence of anything concretely given to present itself to itself. It is this activity of discovering-by-radiation concerning man's inside that was most perspicaciously suggested by samkara one of the most wonderful inside-out theoreticians in the world-by characterising the self as light (prakasa). It is the very nature of human reality to discover itself by discovering the world, to find itself to be there as a watchful witness of itself, to reveal itself by revealing itself-in-the-world. If we are able to define the exact nexus between consciousness's act of experiencing

and that toward which this act is directed, the noesis and the noema, we will have found an answer to the riddle why the world is there as it is.

Our inside performs a ceaseless act of transcendence over the outside, over the given; it perpetually runs towards the pre-conscious, the pre-reflective, the pre-meant, as if this latter area were its only primitive source. Those Being philosophers like Kierkegaard, Jaspers, Samkara and Josiah Royce who tried to show that man as he is in the world is an urge toward being, i.e., toward his transcendental foundation, rightly looked upon him as imperfect and alienated. To surmount his state of imperfection, to seek a unison with that from which he has fallen apart, is the final objective of man. Human consciousness is a striving for the realization of that which would fill up the "lack" in it, make it super human so to say, convert it into pure freedom.

The man-in-the-world is a structure, a total being, on the surface of which lies the sense - experience and at the innermost core the pre - conscious limitless chiaroscuro. Although, therefore, our being-in-the-world is committed to objects it cannot be exhausted by them. Even when one studies the world scientifically, i.e., outside-in, by applying one's rational faculty and observational technique, one is primarily "intentional" toward it, one cannot help bearing a certain a priori view of it. One necessarily takes it as meant in a specific way. Man's intentionality pervades the whole of his outlook towards life and the world. It is the most unconditioned, the most fundamental reach of human consciousness in regard to its objects. And it is pregnant with nuances with a panorama of meanings, most of which remains untraceable in articulation. This is why one can have different perspectives on the same perceived or known object. One can look at it from multiple points of view. Thus what is intentional has its rise in the pre-conscious, the pre-reflective, and therefore is

for ever shrouded in mystery. It is this mystery that makes man ontologically one of the most ambiguous entities on earth.

Adolf Portmann's (bioanthropologists) central concept is "internality", the fact that individuals are centers of purposeful activity who use the external shell of the body as a means of self-expression and of communication with other individuals. Portmann does not claim that the affirmation of man's individuality and sociability provides the "meaning of life". Although specific mysteries of man's biological structure have been solved, he claims, the "basic fact" for philosophical anthropology continues to be man's "mysteriousness". Man has no built-in evolutionary mechanism leading to an equilibrium; there is only a creative variability (Disponibilitat) of the human situation. Man's spontaneous individuality creates new self-images; his sociability spreads and maintains them.

Human consciousness's reach out to the outside and to the inside to the real object (whatever it may itself be) and the pre-conscious, to the given in experience and pre-given in itself, speaks of its inner bouncing from one sphere to another without losing its identity. Man has the peculiar quality of stretching his inside along a spectrum of meanings, a variety of noesis-noema combinations, a total comprehension of which would lead one to the depth of the "subterranean" regions behind consciousness. Indeed, the noesis-noema structure is epistemically positive. It has an experimental purview, a colligation of meanings grasped as present in time, a solid nucleus around which the meaning-consciousness keeps on hovering. This meaning-consciousness need not express itself in a linguistic behavior-its manifestation in language is something contingent, and very often directed toward a social purpose.

The task of phenomenological philosophy is to examine and make explicit all the intentional objects of human consciousness. Transcendental

phenomenology is concerned with the conditions immanent in experience which make any scientific knowledge possible. As the critique of consciousness phenomenological philosophy is essentially philosophical anthropology since it seeks in human consciousness the source of "objective" reality & meaning.

The concept of the *Lebenswelt* is the connecting link between modern anthropology and phenomenology. Contemporary anthropologists frequently describe cultures as 'the designs for living' historically constructed by man for life in society. A culture represents one possibility of existence which has been realized in a particular ecological environment.

The anthropologist studies man as a part of nature subject to natural law in interaction with his ecological environment. But man is also a being with an intentional autonomous consciousness, which is the source of his experience of nature & of his cultural creativity, which is not given by nature. Cultural reality introduces a new dimension of experience not given by the order of nature, it is a mode of reality which has to be willed into existence through human work and invention. For the anthropologist man is both the subject and object of his cultural experience. He is both free to create his cultural life-world and yet is determined by it once it has been created and brought into existence. This is the ultimate 'paradox of human subjectivity' being a subject for the world and at the same time being an object in the world", as Husserl puts it.²⁴

Like existentialism and *Lebensphilosophie*, philosophical anthropology studies man's existence, his experiences, and his anxieties, combining the subjectivism of existentialism with the cultural objectivism of *Lebensphilosophie*. It uses the phenomenological methods of *verstehen* and reduction. Philosophical anthropology shares with existentialism, phenomenology, and *Lebensphilosophie* a critique of society. Yet these

currents are not identical. Heidegger and Jaspers, for example, refuse to be identified with philosophical anthropology, despite their great impact on it.

Philosophical anthropology seeks to interpret philosophically the facts that the sciences have discovered concerning the nature of man and of the human condition. It presupposes a developed body of scientific thought, and accordingly in its program it aspires to a new, scientifically grounded metaphysics. It seeks to elucidate the basic qualities that make man what he is and distinguish him from other beings. It combines, and mediates between, what Kant designated as physiological and pragmatic anthropology.

Physiological anthropology studies man's natural limitations ; pragmatic anthropology deals with man's potentialities with what he, as a free agent, makes of himself, or is able and ought to make of himself. Thus, philosophical anthropology studies both man as a creature and man as the creator of cultural values - man as seen by a scientific observer and man as interpreted by himself. (Aussen - and Innenansicht). Accordingly, most philosophical anthropologists wish to combine scientific methods with an imaginative philosophical approach.

Philosophical anthropology seeks to correlate the various anthropologies that have developed with the specialization of the sciences. Max scheler distinguished between scientific, philosophical and theological anthropologies, or interpretations of the fundamental structure of human activities, which know nothing of one another.

Several years ago, Max Scheler said of philosophical anthropology. "In a certain sense, all the central problems of philosophy can be reduced to the question of man and his position and metaphysical situation within the totality of Being, the world and God".²⁵ But Scheler also saw, and with great clarity, that the many determinations relative to the essence of man cannot be simply

packed together, as it were, in a common definition. "Man is so broad, motley, and various a thing that the definitions of him all fall a little short. He has too many sides".

By co-ordinating and interpreting fragmented knowledge, philosophical anthropology aims at a new understanding of man's essential qualities and potentialities. It aims to accomplish this by the development of suitable methods, by a factual elucidation of the perplexities inherent in human institutions, and by borderline research (coordinating different branches of the sciences) used as a basis for a new "map of knowledge".

Philosophical anthropology embraces most of the social sciences. Some leading practitioners, such as Arnold Gehlen, emphasize the concept of action, rather than man, as the distinguishing feature of philosophical anthropology, and define it as a new empirical discipline, *Handlungs wissenschaft* (similar to "behavioral science" and the "theory of action"), as distinct from the natural sciences and the *Geisteswissenschaften*.

Philosophical anthropology is an attempt to construct of a scientific discipline out of man's traditional effort to understand and liberate himself. At the same time, however, it is pervaded by the same antiscientific currents that mark existentialism, *Lebensphilosophie*, and phenomenology. But it is its dialogue with science that gives philosophical anthropology its peculiar character.

Philosophical anthropologists see a crises of science", a crisis first brought into view by three "humiliations of man" First, the humiliation of copernican astronomy removed man's habitat, the earth, from the center of the universe; Second Darwin's biological evolutionism "shamed and degraded" man and third, the historical schools revealed the relativity of religious and national cultural values.

An anthropology may be said to be philosophical if its method is philosophical, i.e., if it is pursued as an inquiry into the essence of man. In this case anthropology strives to distinguish the essent we call man from plants, animals, and every other type of essent, and by this delimitation it attempts to bring to light the specific essential constitution of this particular region of the essent. Philosophical anthropology then becomes a regional ontology of man, coordinated with other ontologies with which it shares the whole domain of the essent.

It is also possible for anthropology to be philosophical if, as anthropology, it determines either the objective of philosophy or its point of departure or both at once. If the objective of Philosophy lies in the development of a *Weltanschauung*, then anthropology must define the position of man in the cosmos". And if man is accepted as that essent which, in the order of establishing an absolutely certain knowledge, is absolutely the first given and the most certain then it is inevitable that, following the plan of philosophy thus conceived, human subjectivity be placed at the very center of the problem. The first task is compatible with the second and both, as modes of anthropological inquiry, can avail themselves of the method and the results of a regional ontology of man.

Philosophical anthropology rejects the cartesian dualism of body and soul : man is not part animal and part spirit but a being sui generis. distinct from animals in physical condition and in aspirations. This attitude, together with philosophical anthropology's theological roots, may account for a nearly universal (although currently weakening) rejection of Darwin and Freud for allegedly appealing to the forces of primitivism and animality in man. At the same time, many philosophical anthropologists reject modern intellectualism, their rejection of rationality, like that of many existentialists and

Lebensphilosophies, has its roots in the romantic reaction to the enlightenment and the French Revolution. In its suspicion of *Verwissenschaft* ("Scientism"), philosophical anthropology perpetuates the traditional German attacks on Reflexions - philosophie, in which the non rational aspects of reality are alleged to be ignored.

Philosophical anthropology's conception of method was formulated by Wilhelm Dilthey and Edmund Husserl. Husserl's nonempirical phenomenological approach to philosophical questions was claimed to be presuppositionless, wholly scientific, and logically prior to the natural sciences. It is concerned with meanings, an intuitive comprehension of directly experienced essences, and it involves a distinct method for "analyzing" (or rather, interpreting) facts, qualities, relationships, and the basic categories of human nature and culture—a method of analysis different from that which results in an explanatory theory. However, such thinkers as the biologist Adolf Portman and the psychologist Karl Jaspers attempt to combine the scientific and interpretative approaches.

Philosophical anthropology sees man as essentially homo absconditus, inscrutable, an open question. Man must formulate his destiny so that he is not held rigidly in one role but safeguards his creative freedom. The direction in which his freedom permits man to fulfill himself is not amenable to scientific discovery, and thus science is devalued. Man's choices depend on his philosophical understanding of his own position in the world. An infinite variety of choices is open to man. What distinguishes man's nature is not how he chooses, but that he does choose that he is not determined by his biological and physiological constitution but is formed in the light of cultural values he himself has created and internalized. Philosophical anthropology's contribution to the study of culture is its emphasis on the creative element in the unfolding of the various conceptions of man's position in the world. Therefore, man's

self -understanding, or self image, is a central theme of philosophical anthropology.

What we need in our post - modern culture which has, with much clash of arms done away with all the grands recits, is contradictory. We need a new vision of man, of his humanity and his responsibilities, of what it is to be a decent human being. This may look, and it may well be that it even is, old-fashioned, but no society can continue to exist without a compelling vision of man. Deconstructionism is perhaps one of the ways in which man can destroy himself. At the same time however, and here is the contradiction, philosophy has to guard against a situation in which the quest for man ends, because finally a comfortable answer for a brave new world has been found. It is exactly in this fight against post-modern relativism and against totalitarianism that philosophical anthropology has its home.

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CHAPTER VI

MAN A AMBIGUOUS BEING

All scientific knowledge is basically creation of man. For an impression to pass as knowledge, it must appear within the field of our awareness. In natural sciences, for example, the reality of the physical and biological world is assumed; the world is believed to be there for its disclosure to the rational mind. Through the methods of observation, analysis, hypothesization, and verification these sciences aim at unfolding the 'mystery' of the universe. Thus if the objective existence of the phenomena observed is questioned, that is, if the presupposition that events outside us follow a certain order or uniformity and occur independent of the factors constituting the act of observation is doubted, scientific explanation would cease to have any 'real' reference. The very logic of natural sciences demands our unbiased registering of what goes on there 'outside'. The scientific attitude has to 'throw out' anything that it researches on and claims to know. To a scientist, reality is an organization of uniformities whose knowledge, in as much as it is contained inside descriptive or casual statements totally free from the subjective nuances, must be taken as the truth.

Because of the most dependable predictive ability and the resultant control natural sciences have come to command cover different kinds of spatio-temporal events, it is no wonder that their method is today valued as the most fruitful. There is no doubt that the immense credibility that natural sciences have acquired and the fantastic marvels that they have made possible in the spheres of their application are largely due to their method of approaching the universe, presenting and formulating the same. One cannot but admire the wealth of welfare and good that they have generated for

phenomenon in the universe or, if something does not fit into its compass, refuses to recognise its relevance. The phenomena whose very meaning science thus rejects, usually have a base in the psychic, the intentional, the transcendental, or the inward.

The empirical study of man conducted by behavioural sciences is in tune with their emulation of natural sciences phenomena which are anchored in what is called man's subjectivity these sciences would attempt to account for in terms of well - established natural laws. Their account of these phenomena, stated in the language of cause - effect relationship promises to provide us with an exhaustive chart indicating the actual and the possible human responses to different stimuli. Thus, the empirical - analytic approach to subjectivity, to the 'inside' of man, is in every respect identical with the approach of natural sciences to the structure of the universe.

If taken strictly on the ground of its effectiveness, the empirical - analytic explanations of man's behaviour patterns may seem to be flawless. This is because of the materialist and determinist character of such explanations. They make it a point not to construct untestable or transempirical hypothesis and not to confirm any statement unless it reflects observed or observable facts. Their fascination for observational language is boundless and uncritical. so, what has been regarded for centuries as the spiritual foundation of man is here understood through the categories of human behaviour. Our most authentic experiences like feelings, mental acts, self - knowledge, self - identity, meaning - intuition etc., which are the basic stuff constituting our subjectivity, are not recognised as primordial facts of our 'being', but rather as a variety of compounded behavioural expressions. In the process, man's subjectivity - that is, his 'inner space', or the act of transcendence that he fundamentally is, is lost.

Kant tried to prove that our experience of the world is governed by the constitution of our mind. The world in Knowledge conforms to the 'Stuff' human consciousness is made of, i.e., to the constitutive principles of our faculty of knowing. The organizing norms of our reason shape the way we know whatever we know. The problem (which in fact arose with Plato's theory of knowledge) regarding the connection between the idea and the object, the 'understood' and the perceived, the thing known and the thing -- in -- itself, was given by Kant a new status by placing the subjectivity of the knower at the centre of the whole process of knowledge.

Kant was sure that in the act of knowledge the mechanism of subjectivity must be regarded as most relevant. Not only does subjectivity organise the given impressions through its a priori categories (unity, totality, quantity, necessity, cause - effect, negation, existence, modality etc), but it must also be said that without it no experience would be possible. The revolution which Copernicus had caused in astronomy with his hypothesis that the movement of the heavenly bodies is not just passively witnessed by (the man on) the earth but that the earth itself has its own independent movement, seems to have anticipated Kant's epistemological break through in philosophy. Copernicus had made the earth's motion a central factor in the explanation of the scheme of heavenly bodies; Kant made the constitution of the knowing mind the pivot around which knowledge takes place and is systematized.

In any knowledge situation it is subjectivity that confers a meaning on the known Object. In fact unless a thing enters into the range of human subjectivity it would not stand out as experienced. As Husserl, for whom the direction of Kant's philosophy was of great significance, has pointed out, the unique characteristic of subjectivity is its intentionality, i.e its directedness

toward the given.² Husserl maintained that every experience harbours in itself a meaning of some kind, or at times several meanings, in accordance with which it emerges before consciousness as real. The peculiar nature of the object of knowledge is that it is something 'meant' to the knower, lies outside him, and is there because of him. Without this curious 'meaning' or 'beholding' function of the subject there would not be anything registered as known. Knowledge, in its essence, is an act of intuiting meaning whose organisation and association with objects outside is one of the most perplexing acts of our consciousness.³

In this connection one is reminded of Rene Descartes. Although he makes only scant reference to language in his writings, certain observations about the nature of language play a significant role in the formulation of his general point of view. In the course of his careful and intensive study of the limits of mechanical explanation ; which carried him beyond physics to physiology and psychology, Descartes was able to convince himself that all aspects of animal behaviour can be explained on the assumption that an animal is an automation. In the course of this investigation, he developed an important and influential system of speculative physiology. But he arrived at the conclusion that man has unique abilities that cannot be accounted for on purely mechanistic grounds, although, to a very large extent, a mechanistic explanation can be provided for human bodily function and behaviour. The essential difference between man and animal is exhibited most clearly by human language, in particular, by man's ability to form new statements which express new thoughts and which are appropriate to new situations. It is quite easy, in his view; to understand a machine's being constituted so that it can utter words, and even emit some responses, to action on it of a corporeal kind, which brings about a change in its organs, for instance, if it is touched in a

particular part it may ask what we wish to say to it, if in another part it may exclaim that it is being hurt, and so on. But it never happens that it arranges its speech in various ways, in order to reply appropriately to everything that may be said in its presence, as even the lowest type of man can do.⁴

This ability to use language must not be confused with "natural movements which betray passions and may be imitated by machines as well as manifested by animals". The crucial difference is that automata "could never use speech or other signs as we do when placing our thoughts on record for the benefit of others". This is a specific human ability, independent of intelligence. Thus,

it is a very remarkable fact that there are none so depraved and stupid, without even excepting idiots, that they cannot arrange different words together, forming of them a statement by which they make known their thoughts, while on the other hand, there is no other animal, however perfect and fortunately circumstanced it may be, which can do the same.

Nor can this distinction between man and animal be based on peripheral physiological differences. Thus Descartes goes on to point out that

it is not the want of organs that brings this to pass, for it is evident that magpies and parrots are able to utter words just like ourselves, and yet they cannot speak as we do, that is, so as to give evidence that they think of what they say. On the other hand, men who, being born deaf and dumb, are in the same degree, or even more than the brutes, destitute of the organs which serve the others for talking, are in the habit of themselves inventing certain signs by which they make themselves understood.

In short, then, man has a species - specific capacity, a unique type of intellectual organization which cannot be attributed to peripheral organs or related to general intelligence ⁵ and which manifests itself in what we may

refer to as the "creative aspect" of ordinary language use - its property being both unbounded in scope and stimulus free.

The crucial role of language in Descartes's argument is brought out still more clearly in his subsequent correspondence. In his letter to the Marquis of Newcastle (1646), he asserts that "there is no one of our external actions which can assure those who examine them that our body is anything more than a machine which moves of itself, but which also has in it a mind which thinks - excepting words, or other signs made in regard to whatever subjects present themselves, without reference to any passion"⁶. The final condition is added to exclude "cries of joy or pain and the like" as well as "all that can be taught to any animal by art".⁷ He goes on, then to repeat the arguments in the Discourse on method, emphasizing one again that there is no man, so imperfect as not to use language for the expression of his thoughts and no "brute so perfect that it has made use of a sign to inform other animals of something which had no relation to their passions"; and once again, pointing to the very perfection of animal instinct as an indication of lack of thought and as a proof that animals are mere automata. In a letter of 1647 to Henry More, he expresses himself in the following terms :

But the principal argument, to my mind, which may convince us that the brutes are devoid of reason, is that, although among those of the same species, some are more perfect than others, as among men, which is particularly noticeable in horses and dogs, some of which have more capacity than others to retain what is taught them, and although all of them make us clearly understand their natural movements of anger, of fear, of hunger, and others of like kind, either by the voice or by other bodily motions, it has never yet been observed that any animal has arrived at such a degree of perfection as to make use of a true language ; that is to say, as to be able to indicate to us

by the voice, or by other signs; anything which could be referred to thought alone, rather than to a movement of mere nature; for the word is the sole sign and the only certain mark of the presence of thought hidden and wrapped up in the body, now all men, the most stupid and the most foolish, those even who are deprived of the organs of speech, make use of signs, whereas the brutes, never do anything of the kind; which may be taken for the true distinction between man and brute. 8,9.

Free to reflect and to contemplate, man is able to observe, compare, distinguish essential properties, identify, and name. It is in this sense that language (and the discovery of language) is natural to man.

The empiricist hypothesis claims that the language acquisition device operates essentially by principles of inductive generalization which associates observable features of utterances with one another and with other relevant sensory information to obtain an internalization of the rules of a linguistic description.

It is this account of language acquisition that Noam Chomsky and his followers hotly deny.

Knowledge of language cannot arise by application of step - by - step inductive operations (Segmentation, classification, substitution procedures, 'analogy', association, conditioning and so on) of any sort that have been developed within linguistics, psychology, or philosophy.

Why does Chomsky insist upon this ? Why does he claim that the mind must be innately equipped with much more than the power to perform inductive operations ? It is possible to divide his reasons into two types :

(1) There is a set of empirical considerations which, supposedly, are incompatible with the Empiricist hypothesis sketched.

(2) The nature of the rules internalized is such that, even in principle, they cannot have been internalized through the procedures, postulated by Empiricists, alone.

The empiricist considerations include at least the following :

(1) Compared with the number of sentences that a child can produce or interpret with ease, the number of seconds in a life time is ridiculously small. Hence the data available as input is only a minute sample of the linguistic material that has been thoroughly mastered, as indicated by actual performance.

We are faced, that is, with the remarkable fact that, in a very short time, and on the basis of relatively few heard utterances a child becomes a master of language. It is initially difficult to believe he could have attained this mastery solely on the basis of generalization from the small sample he has met with. It would be as if someone could become a chess - master as a result of having watched just one or two games of chess. So one is strongly tempted to suggest that the wide gap between input and output must be bridged by ascribing to the child a rich innate component.

(2) Not only is the input into the child tiny in relation to output, the input is also highly 'degenerate'. Most of the sentences a child hears are ungrammatical, due to slips of the tongue, etc, on the part of the speakers. If language rules were acquired solely by inductive generalizations, one would expect the child's competence to be infected with the mistakes he has heard, and would be expected to copy. Yet this does not happen. While the child will produce many ungrammatical sentences, the underlying competence to produce the right ones is there. This suggests that the child brings with him to the data a mechanism which, as it were, allows him to disregard the innumerable mistakes he hears, when it comes to internalizing the rules.

(3) There is evidence to suggest that mastery of language, unlike mastery in intellectual fields whose subject matter is entirely learned, is not radically affected by intelligence and environment. Children of low intelligence, brought up in disadvantageous linguistic environment (eg. a very lacitum family), are not deficient in grammatical skills to the extent one would expect upon Empiricist assumptions. The wealth and standard of linguistic input should make a very considerable difference to the speed and quality of the child's internalization of language on any Empiricist learning theory. But, apparently, they do not. This contrasts with ability at, say, history or philosophy, for other things being equal one's intelligence and intellectual environment are strongly determining factors. It is pertinent to point out here that while very stupid children can be very adept at language the cleverest ape can be taught the use of symbols only at the most primitive level. These considerations suggest a species - specific, innate capacity for absorbing language.

It seems, then, that a child's ability to correctly interpret new sentences as soon as he is presented with them cannot be due solely to his noting observable similarities between these and others he has learned to interpret in the past. Often it is his recognition of deep similarities that is involved. He must be employing knowledge of grammatical constituents that are quite remote from the phonetic features of the utterances he hears. There is no use in the Empiricists saying that he understands the new by analogy with the old, for it is not observable analogy. 'To refer to the processes involved as "analogy" is simply to give a name to what remains a mystery'¹⁰

Pursuing the fundamental distinction between body and mind, cartesian linguistics characteristically assumes that language has two aspects. In particular, one may study a linguistic sign from the point of view of the sounds

that constitute it and the characters that represent these signs or from the point of view of their "signification".

In short, language has an inner and an outer aspect. A sentence can be studied from the point of view of how it expresses a thought or from the point of view of its physical shape, that is, from the point of view of either semantic interpretation or phonetic interpretation.

Using some recent terminology, we can distinguish the "deep structure" of a sentence from its "surface structure". The former is the underlying abstract structure that determines its semantic interpretation, the latter, the superficial organization of units which determines the phonetic interpretation and which relates to the physical form of the actual utterance, to its perceived or intended form.

It is also argued by Chomsky and his followers that we must go beyond the surface structure of sentences in order to explain our intuitive understanding of many aspects of language. We must, in addition, postulate the existence of 'deep' or 'underlying' sentence structures. Why must we postulate the existence of deep structures? There are several reasons.

(1) First, as Chomsky says, 'the surface structure generally gives us very little indication in itself of the meaning of the sentence'.¹¹ Consider, for example, the sentence 'The love of God is good'. Plainly this is ambiguous. It could be paraphrased either as (a) 'It is good for people to love God', or (b) 'God's love for people is good'. The surface structure of the sentence, that is, does not reveal its ambiguity. However, we can reveal the ambiguity at a deeper level, in the following way. We can think of there being two different underlying strings from which the sentence 'The love of God is good', can be derived.

(2) Another case where surface structure may be a poor guide to meaning is where two sentences mean the same, but differ in surface structure.

(3) Next we have cases where the surface structure of two sentences is identical, but where there are intuitively felt differences in their syntax. Consider the sentences 'John is eager to please' and 'John is easy to please'. A moment's reflection shows that grammatically these are very different. The second can be paraphrased as 'It is easy to please John', while the first cannot be paraphrased as 'It is eager to please John'. This means that we must explain the difference between the two at deep level.

(4) We have cases where sentences do not, on the surface, contain constituents which must, nevertheless, be read into them if we are to explain how the sentences are interpreted. Consider the imperative sentence 'Help the man'. For a number of reasons, though it is reasonable to say that underlying this sentence there is a string which contains 'you' as the subject of 'help'.

Chomsky says : the problem for the linguist is to determine..... the underlying system of rules that has been mastered by the speaker - hearer..... Hence, in a technical sense, linguistic theory is mentalistic, since it is concerned with discovering a mental reality underlying actual behaviour.

Chomsky criticises behaviouristic psychology, saying that it excels in its experimental techniques, but it has not properly defined its object of inquiry, thus it has excellent tools, very good tools..... but nothing very much to study with them.

Chomsky and his followers reject behaviourism and he thinks that the only way to explain human behaviour is to ascribe complicated inner states interacting with each other, as well as with various stimuli, to produce our responses. In other words, he rejects behaviourism in favour of functionalism. Consider beliefs and desires for example. No particular desire is tied to a particular kind of input and output. Even if a person wants to get rich and

sees a bag of money before her, she may not seize it. Her behaviour is conditional on her other beliefs and desires : She may believe that the money is counterfeit or want to be honest as well as rich.

In order to understand human actions one must develop a her meneutical approach to understand the meanings in art, religion, theology, literature and philosophy. But what do we mean by hermeneutics? Her meneutics can loosely be defined as the theory or philosophy of the interpretation of meaning. It has recently emerged as a central topic in the philosophy of the social sciences, the philosophy of art and language and in literary criticism - even though its modern origin points back to the early nineteenth century.

The realization that human expressions contain a meaningful component, which has to be recognized as such by a subject and transposed into his own system of values and meanings, has given rise to the 'problem of heremeneutics' : how this process is possible and how to render accounts of subjectively intended meaning objective in the face of the fact that they are mediated by the interpreter's own subjectivity.

Dilthey in his outline of 'The Rise of Hermeneutics' Says that the awareness of one's own history and of that of mankind as a whole is an indispensable condition for a rich and fulfilled life. Through it, the limits of one's time are transcended and new sources of strength are opened up. Knowledge of past civilizations enriches our lives and their study itself affords us great pleasure, understanding the emotional states of other human beings not only accounts for a large amount of happy moments in our lives but also constitutes a precondition for action on our part. We recognize ourselves as individuals only through intercourse with others and so become aware of characteristics which are specific to ourselves.

Access to other human beings is possible, however, only by indirect means : What we experience initially are gestures, sounds, and actions and only in the process of understanding do we take the step from external signs to the underlying inner life, the psychological existence of the other. Since the inner life is not given in the experiencing of sign we have to reconstruct it; Our lives provide the materials for the completion of the picture of the inner life of others. The act of understanding provides the bridge for reaching the spiritual self of the other and the degree of enthusiasm with which we embark on this adventure depends on the importance the other has for us.

Understanding then, is motivated by our interest in partaking in the inner life of somebody else and is both necessary and rewarding. It establishes a communion of the human spirit dwelling in all of us and addressing us in multifarious forms from all directions.

Many a times individuals in modern societies are blind to these aspects of the inner life. They fail to realise the problems created by science and technology and the limits of scientific knowledge. Science and particularly its offshoot, technology, has made inroads into our social life eclipsing our genuine intellectual problems while giving the impression that there are none, because existence itself is quite pleasant and comfortable.

The noise of technology has smothered the "still, small voice of conscience" and created a false atmosphere of mental and moral security. Not only has technology polluted the environment but our minds have suffered the invasion of its mental anaesthesia which is a much more subtle and dangerous form of pollution.

The account of evolution of man given by science does not seem to satisfy us. The statements like about fifty four million years ago, that is in the deep night of the past, when the great primates (apes, monkeys etc) emerged

from the labyrinth of the evolutionary struggle, there was a distinct bifurcation of the tree of evolution. One of the branches, that of the great anthropoids ended up in the Gorilla; the other, the human branch, went through a series of approximations and culminated in modern man. This creature man that has surfaced after billions of years of evolutionary struggle is, if anything, his own antagonist. He is still being harassed as being the product of chance and purposelessness. To such these, Whitehead, the mathematician - philosopher, has the piquant comment : " Scientists who spend their life with the purpose of proving that it is purposeless constitute an interesting subject of study" (quoted by le comte) 12.

Karl, Jaspers in 'The Future of Mankind', summarises the present state of our mind (he is convinced that our future depends entirely on it) in these words :

"We want to find salvation in a technological conquest of technology - as if use of technology might itself be subject to technological directions. The turn in our destinies will come from the realization that technology, know - how, achievements, are not enough. The science and technology of man must become parts of an encompassing whole. Our thinking is not wholly serious until we come to the end of our know - how. Our age must learn that some things are beyond 'doing'. 13

I am reminded here of one of the statements made by a editor of the London Sunday Express (a newspaper with a very big circulation). he once wrote :

"Science gave us the Great war "

There are various other intellectuals who have realised the limitations of science for example Karl Popper once made a statement saying :

'It is important to realize that science does not make assertions about ultimate questions - about the riddles of existence, or about man's task in this world. This has often been well understood. But some great scientists and many lesser ones, have misunderstood the situation. The fact that science cannot make any pronouncement about ethical principles has been misinterpreted as indicating that there are no such principles while in fact the search for truth presupposes ethics.

Karl Popper

Dialectica 32 :342

Sir James Jeans in his book 'The Mysterious Universe' says :

"Many would hold that, from the broad philosophical standpoint, the outstanding achievement of twentieth century - physics is not the theory of relativity with its welding together of space and time, or the theory of quanta with its present apparent negation of the laws of causation, or the dissection of the atom with the resultant discovery that things are not as they seem; it is the general recognition that we are not yet in contact with reality. To speak in terms of Plato's well-known simile, we are still imprisoned in our cave, with our backs to the light, and can only watch the shadows on the wall"¹⁴

We now know that there are limits to the answers which science can provide. We now know that there are limits to the things we can know - what we can perceive is only a very thin slice of what is. And yet, to a large extent, we persist in assuming that the answers to our questions are there to be found, and that SCIENCE will do the job, tomorrow or the next day. There are uncertainties about the sub atomic world, mysteries concerning the far reaches of space, but perhaps this does not matter so very much - these are things which do not directly concern us. But the human mind does concern us - it is, in fact, our most immediate concern. Here, as nowhere else, it is important to

realise the limitations of science - and, more important still, the fallibility of our blind faith in scientific answers. Faith in science is, itself, quite unscientific.

Science began as one of several attempts to make sense of the universe. We are, in our manifold ways, still trying. Science has helped us transform ourselves and our world, but it has not done what it was initially intended to do. It has not provided us with THE ANSWER to "the riddle of the Universe'. It has not even given us hope that such an answer exists. Here one is reminded of Sri Aurobindo a great philosopher who said science cannot tell us the truth of physical things. Even on the physical plane it cannot give us the correct answers. It cannot perfect our lives and our nature. It has its own infinite limitations. And I feel what he says is true because if one see's the history of science one notices that what was treated and considered as true in the past is not true today and what we consider as true today, may not be true for the future.

The answer's given by science to many of our problems are sometimes one sided. For example the behavioural interpretation of human existence, despite its occasional protestation, ignores the subjective, the creative, and the existential at its core. The inherent policy of modern science is that it either claims to guarantee the conclusive explainability (in theory, if not in practice) of almost every phenomenon in the universe or, if something does not fit into its compass, refuses to recognize its relevance. The phenomena whose very meaning science thus rejects, usually have a base in the psychic, the intentional, the transcendental, or the inward.

The empiricial study of man conducted by behavioural sciences is in tune with their emulation of natural sciences. Phenomena which are anchored in what is called man's subjectivity these sciences would attempt to account for in terms of well established natural laws. Their account of these phenomena,

stated in the language of cause - effect relationship promises to provide us with an exhaustive chart indicating the actual and the possible human responses to different stimuli. Thus, the empirical - analytic approach to subjectivity, to the 'inside' of man, is in every respect identical with the approach of natural sciences to the structure of the universe.

If taken strictly on the ground of its effectiveness, the empirical - analytic explanations of man's behaviour patterns may seem to be flawless. This is because of the materialist and determinist character of such explanations. They make it a point not to construct untestable or transempirical hypotheses and not to confirm any statement unless it reflects observed or observable facts. Their fascination for observational language is boundless and uncritical. So, what has been regarded for centuries as the spiritual foundation of man is here understood through the categories of human behaviour. Our most authentic experiences like feelings, mental acts, self - knowledge, self - identity, meaning - intuition etc., which are the basic stuff constituting our subjectivity, are not recognized as primordial, facts of our 'being', but rather as a variety of compounded behavioural variety of compounded behavioural expressions. In the process, man's subjectivity - that is, his 'inner space', or the act of transcendence that he fundamentally is, is lost.

However objective an understanding of the world science may claim to have reached, there is necessarily in it an expression of consciousness's unique act of intuiting and organizing meanings. It is this act that both Kant and Husserl recognized as constituting the essence of man. It is because of the presence of man in the world that all meanings, theories and explanations originate. The knowing consciousness sees the world to be there, builds up meanings and theories and explanations around it, and develops a technique of

controlling it. From the beginning of history, man has not only shown curiosity with regard to his environment but he has also, almost instinctively, applied whatever knowledge he could gain for changing it. In this sense, he has always been technological and subjectivist in his encounter with the world.

One of the shortcomings of the very methodology of natural and behavioural sciences is that their investigation is strictly confined to the causes of phenomena. Any thinking about the purposes and goals of human activity is supposed to fall outside their investigation. However, it is in the planning of science, in its practice for changing the situation on the globe to man's advantage, that scientists cannot forego the question on human subjectivity - human aspirations, hopes, desires and projects concerning the collective well-being of mankind. In fact, the whole history of scientific - technological civilization represents mankind's decision to pursue certain values, a definite way of life, to seek the fulfilment of its innate 'passions'. Thus, if man is to attain the fullest realisation of his spirit, it is necessary that he not only control his environment, and gain supremacy over the anti- survival forces, but also be aware of the inner dimensions of his self.

There is no technique by which the width of human subjectivity can be completely mapped out. It is a domain in which imagination, insights, intuitions, decisions, and one's *Weltanschauung* spring up before they take a concrete shape in one's life, conduct and attitude towards others. The sphere of subjectivity is too elusive to be captured inside language. It is of the nature of a wholesome feeling of one's being real and absolutely unrestrained in one's inner space. In fact, the very sense of being human that lies underneath our experience of living in the world is rooted deeply in our subjectivity. Subjectivity is the core of my existence in the sense that within my inner self I am aware of my personal identity, my unique reality, and my freedom to

manipulate my own thoughts, feelings, volitions, attitudes, and so on. The aim of what might be termed as the ontology of the inner man should be to verbalize this transempirical reality at the heart of our existence.¹⁵

What science has consistently overlooked is the elan of man. Human consciousness perpetually stretches itself out into transempirical dimensions. It creates feelings, interests, attitudes, insights, volitions, which are the very sine qua non of our existence. Whatever progress the scientific - technological age has brought about must not, therefore, deprive man of his inner being, his search for the meaning of his life out there in the world. Perhaps, the most serious evil that science, when it is rooted totally in objectivity and determinism, has given rise to is the de - humanisation of man. Totally mechanical science has reduced man to a function, to an object, in its attempting to sever him from his primordial ontological base altogether. Man's self - alienation is one of the avoidable but grave maladies of our age.

1. B. F. Skinner, *Beyond Freedom and Dignity*, Middlesex, Penguin Books, 1973, pp. 180-81.
2. D.P. Chattopadhyaya, Lester Embree, and Jitendranath Mohanty, *Phenomenology, and Indian Philosophy*, Published by Indian Council of philosophical Research 1992, p. 200.
3. Dr. R.A. Sinari 'Being, Meaning and saying' in V.K.Bharadwaja, ed., *Rationality and Philosophy*, New Delhi, Northern Book centre, 1984, pp 45-57.
4. *Discourse on Method*, part V. In the *Philosophical Works of Descartes*, translated by E.S. Haldane and G.R.T. Ross, Vol. I, p. 116 the other quotations here are from pp. 116-117 of this edition.

5. For some recent views and evidence on this question, see E.H. Lenneberg, "A Biological Perspective of Language", in *New Directions in the study of Language*, edited by E.H. Lenneberg, M.I.T. Press, 1964.
6. Translated (in part) in H.A.P. Torrey, *The Philosophy of Descartes*, New York, Holt (1892), pp. 281-284.
7. See Chomsky, "Review of skinner, 'Verbal Behaviour', " *Language* vol. 35, pp. 26-58; *Aspects of the theory of syntax*, chap 1 & 8; J. Katz, *Philosophy of Language*, Harper & Row, 1966; J. Fodor, "Could Meaning be an 'r.m'?" *Journal of Verbal Learning and Verbal Behaviour*, vol. 4, pp. 73 - 81 (1965).
8. Torrey, *The Philosophy of Descartes*, pp. 284-287. The Descartes - More Correspondence in so far as it relates to animal automatism, is translated in full by L.C. Rosenfield (L. Cohen) in the *Annals of Science*, Vol.1, no.1 (1936).
9. Descartes goes on to explain that he does not deny to animals life or sensation or even feeling in so far as it depends only on the bodily organs.
10. Harcourt, Brace, & World, *Language and Mind*, 1968 p. 52-3.
11. *Ibid* p. 87
12. Lecomte du Nouy: *Human Destiny* : David McKay Inc ; New York ; (1947) p. 43.
13. Jasper, Karl ; *The Future of Mankind* : The University of Chicago Press (1967) p. viii.
14. Brain M. stableford; *The mysteries of Modern Science* ; published in 1977 by Routledge & Kegan Paul Ltd. p. 33.

15. For a fuller treatment of this idea see Dr. R. A. Sinari 'The Quest for an Ontology of Human self' in S.S. Rama Rao Pappu and R. Puligandia, ed., *Indian Philosophy : Past and Future*, Delhi, Motilal Banarsidass, 1982, pp. 119-136.

CHAPTER VII

CONCLUSION

The main design of this work is to portray human subjectivity. In Husserlian terminology one could phrase this portrayal as of the quest for human consciousness. As Husserl most meaningfully put it 'Consciousness is the wonder of all wonder's greatest riddle of all riddles, puzzle of all puzzles. In the words of Fyodor Dostoyevsky "Man is mystery that must be solved, and if you should spend your entire life in solving it do not say that you have wasted your time". In this chapter an attempt has been made to unravel the mystery of human existence /consciousness. Reference has been made to science as the body of systematically organized corpus of knowledge collected or gained by means of the application of scientific method or hypothetico deductive method.

It has always been appreciated that science is promising and laudable. Science has created feats in our civilization which have led to our *Joie - de - vivre* (The Joy of life). It has been noted that this activity which requires reason as its foundation is exclusively human because no other species apart from humans is gifted with this capacity. Scientific progress and development has reached a level where science has succeeded in bringing about a post postponement of even death. Medical science is indeed becoming increasingly able to put off the very moment of death. For example artificial organs are being used daily in the maintenance and extension of life.

It has been pointed out how scientific advance has also led to various dilemmas for example doctors dilemma. Whether he wants to or not, the doctor is being forced to accept a large share of the responsibility for social

judgements surrounding such basic factors as who shall survive, whose life will be spared by using an artificial organ or by doing transplantation. Philosophical and ethical questions are especially pointed in heart transplant cases. Today science continues to produce pesticides and pollutants in industrial processes that threaten to alter profoundly the balance of nature.

Scientific activity can be said to be a combination of Eros (constructive principle) and Thanatos (destructive principle), to use the Freudian terminology. Scientific and technological revolution has changed man's life style radically. It has forced him into a new world the world of mechanization, organization, automation bureaucracy and hard rationalism. It has interred the individual in an Ocean of laws, systems and oppressive orders what was originally promised to be a boon to mankind by its well intentional original fathers, has opened the gate to total crises. In the words of Theodore Roszak "I have insisted that there is something radically and systematically wrong with our culture, a flaw that lies deeper than any class or race analysis probes and which frustrates our best efforts to achieve wholeness. I am convinced it is our ingrained commitment to the scientific picture of nature that hangs us up.

The Scientific style of mind has become the one form of experience our society - is willing to dignify as knowledge. It is our reality principle, and as such the governing mystique of urban industrial culture".

Today science is making tall claims. Certainly many of these claims are justifiable. Yet, Science has its own limitations. While the application of science and technology is speedily transforming man's life style and confirming his mastery over his environment basic existential questions are still asked as poignantly as they were being asked centuries ago. For example, what is human destiny? What would be the shape of human relations twenty years

hence ? In the words of schrodinger " I consider science an integrating part of our endeavour to answer the one great philosophical question which embraces all others the one that Plotinus expressed by his brief : Who are we ? I consider it the task of science. The only one that really counts. In other words the ultimate goal of science and of all moral spiritual striving is the same". It has been realized that the burdens the technological age has imposed on man have forced into oblivion his metaphysical sensibility. But the sensibility has something compulsive and inconsumable about it.

The most basic search of man viz. the search for the meaning of his life, is embedded in it. The sensibility constitutes the "ontological man", the inside man, "the inner space", in us, as it is variously called. Its peculiar mode of manifestation in existential personalities enmeshed in the web of modern civilization is most significantly described by Martin Heidegger as the metaphysical "homesickness". the ontological man cannot be contained within the scientific - technological life style. He emerges as an alien, a stranger, a misfit, a rebel. Science till today, inspite of advancement in sophisticated technological devices has not been in a position to unfold the mysteries of human consciousness/mind /psyche/ego. In the words of Fyodor Dostoyevsky "the secret of human existence is that man must not simply live but must discover why he should live".

The first chapter of this thesis concentrates on the inquiry into the structure and the aim of scientific activity. It portrays the celebration of logic and rationality in science. Science is being viewed as a tool/means for human benefit/welbeing. There is celebration and glorification of the developments made by science in making man's life comfortable and luxurious. It tries to highlight how science has brought Joie - de - Vivre (the joy of life). How it has

reduced physical fatigue. References have been made to the developments and advancements in science. For example the application of science for the extension of human life in medical technology, in transplant technology, invitro fertilization (I.V.F), Genetic engineering and several other frontier areas for human development. At the same time, science has been criticized for not fulfilling its aim i.e. the emergence of human reality still remains a mystery : as E. Schrödinger says science is completely silent being intrinsically dependent on the objectifying approach, it is unable to tell man anything about those questions he is most interested in "..... " the scientific world - view contains of itself no ethical values, no aesthetical values, not a word about our own ultimate scope or destination, and no God, if you please. Whence came I, whither go I ? Science cannot tell us a word about why music delights us, of why and how an old song can move us to tears." Here references have also been made to various bioethical issues that have come up in relation to scientific and technological development.

The Second chapter of the thesis deals with the confirmation of the scientific/mathematical /logical approach to the world in naturalism/materialism/mechanism/behaviourism. It refers to scientism as a challenge today i.e. how scientific models and the language of science and technology are challenges. It further says that when we consider science and technology as a way of looking or reviewing HUMAN REALITY, One finds that the explanation of human reality is given by means of physico - chemical models. It has been observed that various movements like behaviourism / materialism / physicalism/ positivism/naturalism/ mechanistic sciences or mechanism etc have developed as perspective in which the human mind is translated into brain i.e. The

language of mind /self/consciousness is discarded and human behaviour is translated or explained in behaviouristic language.

An attempt has been made to understand the presuppositions behind these movements. Yet I maintain that we cannot look upon the explanations provided by these movements as adequate. It has been noted that the concept of self / human reality is not tackled adequately by the subscribers to these movements. In other words though the movements like positivism, behaviourism, materialism, naturalism, mechanism try to account for rather mathematically, they are not in a position to de mystify human reality/consciousness. They try to tackle this problem in a stimulus response fashion i.e. they try to explain human reality in verifiable / objective language. And when this is done emphasis is laid on the external aspect of human existence.

It is rightly said that an attempt is to be made to tackle this problem/understand human reality with reference to a synthesis of empirical - phenomenological - existential method. If one does not do so one realises that one reaches a certain stage wherein the explanation provided illudes us. i.e. it does not give us a gestaltic picture of human reality/human consciousness. This subject matter itself is such that using objective method to understand it will never give us a complete picture the human phenomenon because the subject matter itself is not totally objective.

The third chapter deals with the seeming confirmation of the naturalistic view in robotics, artificial intelligence, in bio technology and social engineering. References have been made to Hubert Dreyfus's Views on the limits of artificial intelligence. A comprehensive picture of the naturalistic approach is attempted here.

The fourth chapter deals with phenomenology of the self /consciousness/ego/subjectivity. It includes criticism of scientism and its reductionistic approach. Extensive references have been made to Edmund Husserl, Wilhelm Dilthey, Martin Heidegger, Max Scheler, whose ideas are today the breakthroughs for our understanding of the boundaries of science. Man, the human self has been viewed as a subject having intentionality, capable of the act of transcendence, and man as a meaning giver.

Chapter five deals with philosophical anthropology. The focus of this chapter is the concept of Man, the human consciousness, the human self as constituting, structuring, creating, linguistic, interpreting agency. Reference has been made to for example Immanuel Kant as a bender of what appeared to be "established" empiricist view in the nineteenth century. Man is being talked of as not only a subjective animal but a philosophical one and if he is to grow into human stature there are certain questions he has to ask himself about himself and his world and these are universal, not ephemeral questions and therefore are not confined to economics and politics. It has been said that man is a holistic totality, a whole greater than the addition of his parts, traits, processes and functions. He is referred to as self - determining, self - governing and unique. It has also been explained how man is an adaptive animal, a moral hero, a witness of divinity etc. References have been also made to James F.T. Bugental's View of Man from his book The Search for authenticity, Erich Fromm's View of modern man, Nicholas Rescher's book on human interests, Abraham H. Maslow and his book motivation and personality, Rollo May and his book man's search for himself, Bonner, Martin Heidegger, Kenneth G. Denbeigh and his book three concepts of time, R. Baine Harris and his article "can we have a common humanity", Tsung I dow and his article Zero state of

mind in thinking, great physicists like Max Planck CK & James Jeans. Some amount of information is collected from John Lober's discoveries in neuroscience, Tolstoy's article on death and the meaning of life'; Some of the existentialist philosophers have also been treated. The views of soren Kierkegaard, Jaspers, Marcel etc Views of Hegel, Saint Augustine, Immanuel Kant, Socrates etc have been alluded to.

Chapter six of the thesis deals with man as the creator of science /scientific theories/scientific imagination/ the metaphorical symbolic /ambiguous expression of the human mind. Noam Chomsky's works and his theory of "Deep structures" in language are dwelt on at this stage. Hermeneutics has been recognized as the meaning - elucidating technique in art; religion, theology, literature, philosophy. An attempt has been made to recognize the limits of science. It has been realized that science is a comparatively fragile structure : the best it can do is to provide ever - changing estimates of how things work. Our scientific knowledge is always defeasible and transitory. The scientific theory of one day is destined to be rejected by that of the next. At the level of scientific theories, our commitments are tentative and fallible - in sum, provisional.

It has been found that there is a dichotomy between the scientific mind and the spiritual / metaphysical/ aesthetic self. It is this dichotomy that is the basic paradox behind human civilization. Although there is no escape from this dichotomy - we are in a way condemned to it, as Albert camus would remark the "external" must not be allowed to superside the "internal " the "functional" self must not invade the authentic self. As Martin Heidegger said, the advent of the scientific - technological frame (Gestell) has produced a crisis of technification that goes to the roots of all scientific thinking. Scientific thought

has itself become technologized, which means that science is no longer capable of thinking in an originaive sense. Science calculates, but it does not think. Only poetic (metaphysica) dwelling is capable of thinking in an Originative sense, and it alone has the power to liberate us from the technification of thought and praxis that has ushered in as a result of the fusion of science and technology.

The extraordinary success in the domain of natural knowledge is now to be extended to the domain of the spirit. Reason has proved its power in exploring nature. As the sun is one all - illuminating and warming sun, so too is reason one said Descartes. The method of natural sciences must be made to embrace the mysteries of spirit. Because despite the development in the spheres of science, technology, robotics, artificial intelligence and other areas of high technology, the models available or put forth in these spheres are not adequate or competent enough for explaining the phenomenon of the self, self's creativity, self's imaginative capacity. It is well- known that science is not able to demystify the structure of human reality, which still remains a challenge to materialist / positivist / mechanistic / behaviourist models of explanation. The riddle of being human seems to be perennial challenge to the scientific - technological genius of our time.

The undercurrent of my work is not to deride the unimaginably powerful scientific - technological enterprise which has given a new meaning to the human life today, but to show how this enterprise has come to overshadow that trans - scientific, ontological quest of man on which his reality of "being human" depends.

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